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WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

Published by The Miller Publishing Co., Minneapolis, Minn.

Vol. 3

Accepted as Controlled Circulation  
Publication at Minneapolis, Minn.

AUGUST 27, 1956

Subscription Rates:  
\$5 for 1 year, \$9 for 2 years

No. 35

## Details Announced For Conservation Reserve Program

### Phase of Soil Bank Designed to Divert Acreage from Crops

WASHINGTON — Ezra Taft Benson, secretary of agriculture, has announced the long-term part of the soil bank—the conservation reserve program.

Designed to divert land regularly used for crop production to conservation uses, the conservation reserve provides (1) for cost-sharing assistance to farmers in making such shifts and (2) for annual payments on the land put under the program.

The other phase of the soil bank is the acreage reserve, a short-term program designed to reduce surpluses of wheat, corn, cotton, rice, tobacco and peanuts. This program encourages farmers to reduce production of these crops below their farm acreage allotments through income-protecting payments for the crops that would have been produced

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## Exploiting the Potential for Cutting Cost Of Production Imperative for Future of Cotton, Council Leader Tells Conference

ATLANTA — Cotton's future and the role of lower production costs and improved quality in keeping it competitive were studied at the tenth annual Beltwide Cotton Mechanization Conference, held here Aug. 22-24.

Highlighting the conference were talks on major problems facing the industry, the importance of mechanization, modern production techniques and mechanization research needs.

The conference was sponsored by the National Cotton Council in cooperation with the University of Georgia, Farm Equipment Institute, Cotton Belt land grant colleges, the U.S. Department of Agriculture and other groups.

Exports of American cotton could double or even triple over the next two or three years—or they could virtually disappear, Wm. Rhea Blake, executive vice president of the Na-

## Potash Deliveries Show Gain in First Six Months of 1956

—See Table on Page 21—

WASHINGTON — Potash deliveries during the first six months of 1956 in North America by the seven major American potash producers and imports for the first five months amount to 2,093,439 tons of salts containing an equivalent of 1,236,542 tons K<sub>2</sub>O, the American Potash Institute has announced.

This represented an increase of 2% in salts and K<sub>2</sub>O over the same period in 1955. Deliveries of potash for agricultural use in Institute countries totaled 1,887,708 tons of salts with an equivalent of 1,111,134 tons of K<sub>2</sub>O, a decrease of 2% in salts and K<sub>2</sub>O under last year.

Making up these agricultural deliveries were 1,042,457 tons K<sub>2</sub>O as muriate, 877 tons K<sub>2</sub>O as manure salts, and 67,800 tons K<sub>2</sub>O as sulphate of potash and sulphate of potash-magnesia.

The chemical industries took 109,266 tons of potash salts containing an equivalent of 67,885 tons of K<sub>2</sub>O, an 18% increase in salts and K<sub>2</sub>O over the first half of 1955. Exports to other than Institute countries amounted to 57,523 tons K<sub>2</sub>O, an increase of 167% over last year.

During the second quarter of 1956, total North American deliveries including imports amounted to 979,010 tons of potash salts containing an equivalent of 579,962 tons K<sub>2</sub>O. This represented an increase of 7% in salts and K<sub>2</sub>O compared to the tonnage delivered during the corresponding period in 1955. Imports comprised 82,131 tons K<sub>2</sub>O of the above

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## Russell Coleman Sees 1957 As Year of Sales Opportunity Despite Cutbacks in Acreage

By JOHN CIPPERLY  
Croplife Washington Correspondent

WASHINGTON—Heavy cuts in acreage of the basic commodities, which are now evident in the operations of the soil bank program for wheat, cotton, rice, peanuts and tobacco, will not deny the plant food industry a broad avenue of opportunity to match and exceed its sales potential for the coming crop year.

This was the answer that Dr. Russell Coleman, executive vice president of the National Plant Food Institute gave to Croplife here this week when he was asked if the now indicated acreage cutbacks in these crops might not pose a serious problem for his industry. Dr. Coleman supported his optimism with effective comments on industry opportunities—an optimism which is also reflected among U.S. Department of Agriculture economists and operating officials.

### Acreage Reserve Signup Exceeds 12 Million Acres

WASHINGTON — More than 550,000 agreements, covering over 12,300,000 acres of cropland, were signed under the 1956 acreage reserve program of the soil bank according to revised final figures released by the U.S. Department of Agriculture. Total maximum payments that could be earned under the signup would amount to nearly \$261,000,000, although this figure could be adjusted downward after the final check on compliance.

According to reports received by the department from state Agricultural Stabilization and Conservation Committees, 537,172 farms were covered by the 553,328 agreements signed under the program. This indicates that a number of farms signed agreements covering more than one of the "basic" crops.

The largest number of agreements were signed by corn producers; 320,450 covering 5,450,194 acres on which they could earn a maximum of \$180,629,284. Wheat producers were next with 162,574 agreements, covering 5,654,507 acres on which they could earn a total of \$44,490,882. For the other commodities, the respective totals were:

Cotton, 95,954 agreements, covering 1,113,789 acres with maximum payments of \$27,281,778; all tobacco, 19,994 agreements, 31,671 acres, maximum payments \$6,618,699; peanuts, 5,303 agreements, 43,645 acres, maximum payments \$591,437; and rice, 1,112 agreements, 28,003 acres, and maximum payments \$1,386,667.

### Firm to Build Branch Plant in Kentucky

PARIS, KY. — Parks-Barnes, Inc., of Hermosa, Cal., manufacturer of plant foods, has purchased a nine acre site for a branch plant here. The plant is to provide 6,000 square feet of space and will employ 24 persons.

Dr. Coleman tempered his views of the new crop year outlook with the comment that any further cutback in tobacco acreage was bound to effect some reduction in fertilizer use in that field since the tobacco industry was now making the maximum use of plant food ingredients. Consequently, any cutback in acreage would mean a reduction in the demand for plant foods. The soil bank is a back door approach to cross compliance with other crops since to be eligible for soil bank payments land taken out of production cannot be planted in other commercial crops.

It was pointed out that the USDA plans for acreage cutbacks in wheat of between 10 to 15 million acres—the top side figure now largely probable—would only affect sales amounting to about 8% of the overall figure of the industry.

But in agreeing that this was potentially a large acreage reduction, Dr. Coleman said there were many other agricultural sales potentials which were larger than that of wheat where there was no impact of soil bank operations.

Dr. Coleman noted that one  
(Continued on page 20)

## Colorado, Wyoming Hopper Control Programs Near End

DENVER — The 1956 grasshopper spraying program is coming to a close in Colorado and Wyoming.

The control program on 211,669 acres in Las Animas and Baca counties in Colorado was completed at a cost of \$101,094, according to Paul W. Swisher, Colorado agriculture commissioner. Some 218,918 acres in Douglas County were sprayed at a cost of \$9,889.

Everett Spackman, Wyoming state entomologist, predicted that Wyoming's hopper control program would be even bigger in 1957. This year's aerial spraying operations covered 265,000 acres.

Mr. Blake said there is just one  
(Continued on page 21)





Robert C. Sweeney

**NEW YORK**—Sinclair Chemicals, Inc., has announced the appointment of Robert C. Sweeney as manager of market development in charge of the company's market research and product development activities with headquarters in New York. He has been associated with Sinclair since October, 1952. Mr. Sweeney joined the U.S. Air Force on graduation from High School in 1942. He was graduated from St. Joseph's College in Philadelphia with a bachelors degree in chemistry in 1949 and was employed by the American Sugar Refining Co. in Philadelphia as technical representative. In 1952 he joined the Hercules Powder Co., Wilmington, Del.

### Middle West Soil Improvement Committee To Meet Oct. 25

**CHICAGO**—Plans are being speeded for the annual meeting of the Middle West Soil Improvement Committee, Oct. 25, at the Sherman Hotel here.

In addition to the morning business meeting, a new feature this year will be a short afternoon session devoted to a showing of new MWSIC visual aids. The afternoon program will be paced so that MWSIC members will have plenty of time to catch planes and trains back home after the meeting.

Scheduled for showing will be selected pictures from color film strips, TV shorts and other promotional aids designed to spur the use of fertilizer.

The morning annual business meeting will be opened by W. M. Newman, president, at 9:30 a.m.

On the agenda will be detailed reviews by Z. H. Beers, MWSIC executive secretary, of the results of the committee's 1956 educational publicity work with farm magazines, daily and weekly newspapers, radio stations, county agents and other extension workers.

Summaries will be presented of the results of field trips by MWSIC staff members, work with colleges and experiment stations and contacts with research agronomists and extension men. State-by-state reviews will be presented on MWSIC-supported research on fertilizer use at the various colleges.

Reports will also be given on membership, new projects and activities for the coming year. The 1955-56 budget will be presented for approval by the members.

### ROLAND W. SMITH DIES

**SAVANNAH, GA.**—Roland W. Smith, 47, a sales representative for Chemical Packaging Corp. of Savannah, died Aug. 13 at his home in Richmond, Va.

### Richard T. Yates, P. J. Reno Named to New Hercules Posts

**WILMINGTON**—Richard T. Yates, manager of the agricultural chemical division, naval stores department of Hercules Powder Co., has been given a special assignment to investigate new fields of chemistry in which the company is interested.

P. J. Reno, sales manager of the agricultural chemicals division, will succeed Mr. Yates as division manager.

Mr. Yates joined Hercules in 1929, as a chemist, after graduating from Virginia Polytechnic Institute with a B.S. degree in chemical engineering.

Soon after joining Hercules, he was transferred to the sales staff of the company's naval stores department, and in 1940 he was named manager of domestic sales for the department. He was appointed assistant director of sales for the department in 1945.

When the department established an agricultural chemicals division in 1954, he was named manager. Previous to that time he had played a key role in the development and sales of toxaphene, agricultural insecticide.

Mr. Yates is chairman of the Policy Committee, National Agricultural Chemicals Assn.

Mr. Reno, a native of Mississippi and graduate of Mississippi College, joined Hercules in 1941 in the sales division of the naval stores department. At the close of World War II he was assigned to the Southwest.

In 1948 the naval stores department established a sales office in Dallas, and Mr. Reno was named manager of that office. He served in this capacity until earlier this year when he was named sales manager of the department's agricultural chemicals division with headquarters in Wilmington.

He is a member of the Society of Professional Engineers, and the Southwestern branch of the Entomological Society of America. In 1952 Mr. Reno was elected president of this organization. In 1956 he was elected to a three-year term as a member of the governing board of the Entomological Society of America.

### 6% Gain Forecast In 1956 Summer Vegetable Production

**WASHINGTON**—Based on Aug. 1 conditions, production of fresh market summer vegetables in 1956 is forecast by the Crop Reporting Board to be about 6% above last year, most of the increases being accounted for by the major crops, including cabbage, celery, lettuce, spinach, carrots and tomatoes.

The current forecast is for 75,700 tons of early summer cabbage, up 7% from last year and 11% above average; 569,400 tons of early fall cabbage, up 36% from last year and 4% above average; 1,854,000 bushels of carrots, 6% above last year and about a fifth above average; 3,664,000 crates of celery, up a fourth from last year and the average; 324,000 bushels of spinach, up 26% from 1955 and 8% above average; tomato production is forecast at a record 7,189,000 bu. from early summer production, 9,003,000 bu. from the late summer states, and 7,425,000 bu. from California's early fall crop.

### Insecticide Firm Opens New Building

**DALLAS**—Dettelback Insecticide Corporation of Texas, formulators of insecticides, has opened a new building at 2208 Irving Blvd., here, R. W. Austin, general manager, has announced.



Frank J. O'Neill



Henry E. Wessel



Emanuel Heimberg

### IMC Announces Appointment of Three Marketing Executives

**CHICAGO**—Anthony E. Cascino, director of marketing, International Minerals & Chemical Corp., has announced the appointment of three marketing executives.

Heading advertising and sales promotion is Frank J. O'Neill, formerly director of advertising and sales promotion for Sidney Wanzer & Sons, and before that associated in a similar capacity with American Hospital Supply Corp., Evanston, Ill.

Mr. O'Neill will be responsible for the coordination of advertising and sales promotion for the corporation's six divisions as well as for the development and administration of programs for the company as whole. He is a Northwestern University graduate, resides with his wife in Chicago.

Named manager of product development is Henry E. Wessel, whose activities will be aimed at the development of new uses for old prod-

ucts and the creation of new products. Before joining International Mr. Wessel served as manager of the engineering economics division of the Midwest Research Institute, doing surveys for leading petroleum chemical and plant food producers.

Prior to that he was with Monsanto Chemical Co. in production engineering and market research capacities. A native Chicagoan, Mr. Wessel is a graduate of the Illinois Institute of Technology. He resides with his wife and three children in Palatine, Ill.

Emanuel Heimberg has moved up to manager of market analysis, responsible for the corporation's activities involving determination of market potentials, sales patterns, and short- and long-term company and industry forecasts.

Prior to joining International in 1955, Mr. Heimberg was with Glyco as assistant to the sales manager in technical chemicals sales service. He has an A.B. in chemistry from Harvard University and an M.B.A. in marketing from Columbia University. He resides with his wife and daughter in Evanston.

### Luria Completes Two Buildings for Hercules

**BETHLEHEM, PA.**—The Luria Engineering Co. has completed construction of two steel buildings at Parlin, N.J., for the Hercules Powder Co., Inc., of Wilmington, Del. The structures, which have floor space of 23,500 sq. ft., are part of the \$10 million new plant announced by Hercules last fall, earmarked for the production of industrial and household items.

One building will be used as a warehouse and the other will serve as a refrigerator building.

The larger building is a 70x300 ft. warehouse with an eave height of 14 ft. At one end, across the entire 70 ft. width of the building, there is a 10 ft. wide canopy. The structural steel frame is column-free and is covered with corrugated steel on all sides, on the roof and on the canopy.

The smaller building is a refrigerator house. It is a 40x50 ft. structure with a lean-to on one side which extends the building's width an extra 12 ft. and 8 in. The outside wall of the lean-to is of masonry construction. All the other walls and the roof are of corrugated steel. The height to the roof, measured at the column line, is 16 ft. At one end of the building there are two 10x10 ft. doors and another two doors of the same size on one side. The building has 11 windows.

The completed plant, which will have an annual productive capacity of 30,000,000 lb., is scheduled to be ready for operation by the end of the year.

### South Carolina Tonnage

**CLEMSON, S.C.**—July fertilizer shipments in South Carolina totaled 12,764 tons, a 12.5% increase from 11,355 tons in July a year earlier, according to the Department of Fertilizer Inspection and Analysis. The July, 1956, total included 106 tons of bulk fertilizer.

### Alabama Sales Total 1,057,000 Tons in 1955-56

**MONTGOMERY, ALA.**—Total sales of commercial fertilizer in Alabama during the 1955-56 season amounted to 1,057,000 tons, according to J. C. Garrett, agricultural statistician of the State Crop Reporting Service.

Sales of superphosphate were down 12.6% compared with a year ago, while potash sales were up 9.3%. Total nitrates dropped 2.7%.

In mixed goods 4-10-7 remained the predominant grade, but sales were 27.2% less than during the 1954-55 season. The next leading mixture was 4-12-12 with an increase of 163% over the previous year. Other grades making important gains include 0-12-20, 0-14-14, 0-16-8 and 0-20-20.

A breakdown of grades and materials by tons follows:

Superphosphate	22,290
Potash	9,440
Nitrate of Soda	87,190
Ammonium Nitrate	75,140
Sulphate of Ammonia	2,110
Nitrate Compounds (20.5% N)	35,810
Anhydrous Ammonia	2,940
Other Nitrates	2,120
4-10-7	421,840
6-8-4	96,460
6-8-8	43,260
8-8-8	7,020
5-10-5	1,860
4-12-12	127,130
0-12-20	14,120
0-14-14	51,350
0-16-8	40,420
0-20-20	3,430
Other grades	12,470
Total	1,057,000

### In New Quarters

**PHILADELPHIA**—The General Scientific Equipment Co., manufacturers and distributors of industrial safety equipment, has expanded its manufacturing and warehousing facilities through removal to new and larger quarters. The company's new plant and offices are located at 7516 Limekiln Pike, Philadelphia 50, Pa.



## Dow Chemical Sales Set Record Fiscal 1956

MIDLAND, MICH. — Sales of the Dow Chemical Co. topped the half dollar mark in its 1956 fiscal year, ended May 31, climbing to a record \$565 million for a 20% increase over last year's \$470 million. These figures were revealed in the company's 59th annual report to stockholders which was released recently.

Resources other than direct sales brought the company's total income to \$569.5 million, up from \$478.8 million last year.

Reflecting a "high level of operations sustained throughout the year" Dow's net earnings were up 59% to \$17.7 million, equivalent to \$2.52 per share of common stock. In the previous year earnings of \$37.4 million yielded \$1.64 per common share. Shares outstanding increased from 683,015 to 23,663,674 and the number of stockholders increased from 400 to 63,300.

The report showed Dow paid \$54.6 million in U.S. and foreign income taxes, an increase of 52% over the \$35.9 million paid in 1955.

Wages, salaries and indirect benefits totaled \$154 million or 27% of the company's income dollar. Of this, \$35 million was in indirect benefits. Employment at year end was 25,200, an increase of 2,700 over the previous year.

Depreciation and amortization remained essentially even at slightly under \$74 million.

The company reported it has spent \$9 million in capital additions during the year and expected to invest more than \$75 million in facilities in the current fiscal year.

Approximately 53% of Dow's sales revenue was accounted for by chemicals, the report showed, with 32% derived from plastics, 9% from magnesium and 6% from agricultural chemicals.

## South Carolina Fertilizer Sales Show Decline of 7% in 1955-56

CLEMSON, S.C. — South Carolina fertilizer sales during the fiscal year ended June 30 totaled 863,617 tons, a 7% decrease from 928,715 tons in 1954-55, according to a report by B. Cloaninger, director, Department of Fertilizer Inspection and Analysis. The 1954-55 total included an inventory of 4,800 tons as of July, 1954 when the new fertilizer law went into effect.

Sales of mixed goods in 1955-56 totaled 620,921 tons, down 4% from 648,065 tons the previous year. Other declines were shown by nitrogen, down 10% from 221,350 tons in 1954-55 to 197,866 in 1955-56; phosphate, down 46% from 31,017 to 19,689, and potash down 16% from 25,199 to 21,085. Sales of landplaster gained from 10,084 to 3,956.

Bulk sales, which are included in the above figures, totaled 6,157 tons in 1955-56, compared with 5,920 tons in 1954-55.

## GRASSMAN CONTEST

PORTLAND — Gold comes in two forms to winners in the sixth annual Grassman of the Year contest as the Portland Chamber of Commerce announces that R. M. Wade & Co., Portland irrigation equipment manufacturers and awards sponsor for the regional contest, will provide a \$750 cash award for the 1956 Pacific Northwest "Grassman of the Year." The regional winner will be announced in November by the Chamber at a special luncheon in honor of all "grassmen." State contests in Washington and Oregon close Oct. 15. The deadline in Idaho is Oct. 1. First and second place winners in the Oregon contest will receive cash awards of \$300 and \$300 provided by the U.S. National Bank, Portland.

## Southern Weed Conference Program Being Prepared

MEMPHIS — Latest developments in the use of chemicals to control weeds in all phases of southern agriculture will be featured during the 10th annual meeting of the Southern Weed Conference scheduled to be held in Augusta, Ga., Jan. 23-25, 1957.

All phases of research and education in chemical weed control will be reviewed according to Dr. W. B. Albert of the South Carolina Agricultural Experiment Station, Clemson, S.C., conference president.

A complete program is now being prepared and will be announced prior to the conference. Dr. J. K. Leasure of the Dow Chemical Co., Midland, Mich., is serving as chairman of the program committee for this conference.

Officers for the 10th annual conference are: president, Dr. W. B. Al-

bert; vice president, Dr. E. G. Rodgers of the University of Florida, Gainesville, Fla., and secretary-treasurer, Dr. Walter K. Porter, Louisiana State University, Baton Rouge, La.

All sessions of the conference will be held at the Bon Aire Hotel in Augusta. Conferees are expected to reserve their own hotel accommodations.

## CALIFORNIA FIELD DAY

BERKELEY, CAL. — Fertilizing and the chemical control of pests attacking sorghum and soybeans will be among the subjects discussed at the fall agronomy field day to be held at the University of California campus in Davis Sept. 7. Sorghum and soybeans will be featured, according to Paul F. Knowles, acting chairman of the agronomy department, who has announced the field day. Other topics to be discussed will be weed control for sugar beets, and planting of various kinds of crops.

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## California Chemical Employment Gains

SAN FRANCISCO — Employment in chemical manufacturing industries in California reached a new all-time high for the first six months of this year when an estimated 37,200 wage and salary workers were employed on the average each month from January through June inclusive.

The division of labor statistics and research reports a high of 37,800 attained during June, and, except for November of last year, this would have been a record for a single month. There were 38,000 chemical workers employed in November.

The production worker segment of this total earned on the average of \$2.25 each hour of employment during June as compared with \$2.11 for the previous June. Since the average workweek remained almost the same—41.6 hours this June compared with 41.8 hours in June, 1955, the weekly earnings figure rose significantly from \$88.26 to \$93.65.



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# INSECT, PLANT DISEASE NOTES

## Maryland Reports Grasshopper Damage

COLLEGE PARK, MD. — Grasshoppers, nymphs and adults are abundant and doing damage to alfalfa and pasture on some farms in Montgomery and Talbot Counties. Potato leafhoppers are from light to moderate on alfalfa on the Eastern Shore. Other insects that are present on alfalfa include tarnished plant bugs and green cloverworms.

Infestations by second generation corn borers have been from light to moderate. Second generation egg masses in Frederick County averaged 14 to 100 plants and stalk and ear infestation averaged 11%. Corn borer will probably increase. Fall armyworms have injured late corn in Calvert, Talbot and Montgomery Counties. Damage has been spotty. Sap beetles continue to be abundant in canning corn. Earworm is moderate.

Mexican bean beetles are generally on snap and lima beans particularly in home gardens. Blister beetles, several species, are abundant on home-planted tomatoes in Montgomery and Prince Georges Counties. Corn earworm eggs were found on lima beans in Dorchester County.

Green peach aphids have been very heavy on tobacco in all tobacco-growing counties. The heaviest infestations observed last week were in southern Prince Georges County. Spraying with parathion by airplane continues. Second brood hornworms are now active on tobacco. Infestations are moderate but may increase. —Theo. L. Bissell and W. C. Harding, Jr.

## Heavy Carrot Beetle Infestation in Kansas

MANHATTAN, KANSAS — The adult grasshopper survey was concluded in northeast Kansas during the past week (Aug. 13-19). Populations appear about the same or a little lower than last year at this time. Infestation counts showed light to threatening populations present in localized areas of the following counties: Doniphan, Brown, Nemaha, Marshall, Pottawatomie, Jackson, Jefferson, Leavenworth, Atchison and Wyandotte.

No general over-all infestations were found in this area, but rather, a concentration of grasshoppers in favored habitats. Counts ranged from 6 to 28 'hoppers per square yard along field margins, fence rows and along creek banks and from 1 to 18 per square yard out in the open fields.

Concentrations of 'hoppers in fence rows and in the roadside margins of corn fields make infestations appear higher than they actually are. Dominant species are the differential grasshopper (*Melanoplus differentialis*), the two-striped (*M. bivittatus*), the red-legged (*M. femur-rubrum*) and the white-whiskered (*Ageneotettix decrum*). Nymphs of the lesser migratory grasshopper (*M. mexicanus*) were common in most alfalfa fields in this area of the state.

Non-economic infestations of spotted alfalfa aphids were found in nearly all alfalfa fields that were surveyed in the following counties of northeast Kansas: Doniphan, Brown, Nemaha, Marshall, Riley, Pottawatomie, Jackson, Jefferson, Atchison, Leavenworth and Wyandotte. Counts ranged from 2 to 40 aphids per sweep. No honey dew was observed. Reports have also been received that these aphids are increasing in numbers in the north central area of the state. In general, it appears that present populations in the state are about the same as last year at this

time and with the same statewide distribution.

Very light infestations of yellow-striped armyworm larvae were found in alfalfa fields in northeast Kansas counties. Counts ranged from 8 to 40 per 25 sweeps. No garden webworm populations of economic importance were found in any alfalfa fields in northeast Kansas counties.

Extremely heavy populations of carrot beetles are being found in several areas of Kansas. Heaviest populations occur at Manhattan, Riley County, where adult feeding on roots of sunflowers growing in experimental plots has been particularly destructive. Counts range from 6 to 18 beetles per plant.

During one night at Manhattan 22,000 of these beetles were taken in the light trap. Some of the light trap counts were recorded as follows: Aug. 12, 22,000; Aug. 13, 12,000; Aug. 14, 18,000. The heavy concentration of these beetles has made identification of other light trap specimens impossible. Reports from Kiowa County state that carrot beetles have been destructive to tomato plantings. These beetles were also found numerous around native sunflowers in Jefferson County, east central Kansas.

Heavy infestations of corn earworm were found on field corn growing in fields of northeast Kansas. Virtually all of the ears are infested and a new generation of larvae are now present. Heavy earworm moth flights were observed this past week in Atchison, Leavenworth and Doniphan Counties. —Dave Matthew.

## Boll Rot Making Appearance in Arizona

PHOENIX, ARIZ. — Showers continue to fall in many parts of the cotton growing area in Arizona (week ended Aug. 16). Some boll rot is showing up in fields where cotton is rank. Injuries have occurred to applicators when using phosphate because they do not follow directions for protection. United States Department of Agriculture workers report that desert rust is widespread in Pima and Santa Cruz Counties.

The Graham County agent reports that bollworms are present in the Geronimo area and Lygus are heavy next to hay fields. North of Safford, Lygus counts range from 32 to 40 per 100 sweeps. In the Soloman area the leaf perforator is very heavy in one field. Stink bugs and Lygus are found in the Cactus area. Dusting for control is in progress by both air and ground equipment.

The Pinal County agent's office reports that Lygus are heavy in some sections as are leaf perforators. In the Maricopa area, bollworm eggs were present despite dusting. In the Coolidge area, loop-

ers and bollworms are present with the latter 3 to 8 per 100 plants. Around Magma, they found only a few loopers in the dry area of the field. The Lygus counts average 15 at Stanfield; 6 to 12 at Casa Grande; 12 to 30 at Eloy; 3 to 25 at Magma; 8 at East Coolidge, and 4 at West Coolidge. Predators continue to be very plentiful in this county.

In Maricopa County cabbage loopers are quite bad in some fields near Glendale, Peoria, Gilbert, Chandler, Laveen and Buckeye. Adverse weather and heavy infestations have made it difficult to gain satisfactory control over them. Leaf perforators and leaf rollers are active throughout the county. Bollworms are not as much of a problem as they were earlier. Woolly worms are increasing in population around Buckeye. Lygus and stink bug populations remain high enough to warrant control in many fields.

The USDA workers report Lygus counts are running about 35 in Maricopa County while there are some in Pinal and Pima counties. They report that bollworms are the predominant pests in Pima and parts of Pinal County. Stink bug populations are on the increase in all areas. Heavy populations of spider mites were found in one field near Gilbert. —J. N. Roney.

## Florida Ends Japanese Beetle Trapping Program

GAINESVILLE, FLA. — Highlights from the Florida insect survey for the week ended Aug. 17:

The trapping operation conducted by Dr. L. A. Hetrick for the Japanese beetle, after the find of a single adult in April, has not turned up any additional specimens. After three months of trapping and no additional finds, the trapping program has been discontinued.

A recent survey of the feed and seed stores on the East Coast for the Khapra beetle did not reveal this pest in Florida to date.

The recent finds of the grass loop-er adult at light traps in various parts of the state is an indication that cattle owners should be on the lookout for the grass loopers in their pastures. From the observations we have made in the past two years, this insect becomes a pest about this time of the year. —H. A. Denmark.

## Variety of Insects In New Mexico

STATE COLLEGE, N.M. — Cotton bollworms are causing moderate to heavy damage in most cotton growing areas of the state. Lygus bugs infestations are medium to heavy. Counts range from 8 to 28 per 100 sweeps in Dona Ana County.

Cotton aphids are light and spotty in Dona Ana and Sierra counties

while infestations in Eddy, Chaves, Roosevelt and Curry counties are general with some fields heavily infested. Cabbage loopers are light to medium in cotton in Eddy and Chaves counties.

Spotted alfalfa aphid populations dropped off to light or nonexistent in most fields in Dona Ana and Curry counties. Heavy infestations are reported in Torrance County. Tomato hornworms are causing damage to tomatoes in Dona Ana and Lea counties. Large numbers of adults are reported in Luna County. Tomato fruitworms are causing light to moderate damage to tomatoes in Dona Ana County.

Mexican bean beetles are heavy on beans in Torrance County. A tortoise beetle is causing moderate to severe damage to commercial chile plantings in Valencia County. Striped spotted cucumber beetles are causing damage to melons and sweet corn in Dona Ana County.

Corn earworms are medium heavy in field corn and sweet corn in Dona Ana, Roosevelt and Curry counties. Blister beetles caused growers to abandon approximately 60 acres of tomatoes in Lea County. —John J. Durkin.

## Brown Rot Threat Seen in Maryland

COLLEGE PARK, MD. — Rain, high relative humidity and warm temperatures are favorable for brown rot on peaches, says Dr. L. O. Weaver, University of Maryland, extension plant pathologist.

Brown rot blossom blight has been found in some Maryland orchards, he said. Brown rot has also appeared in cherry orchards and will spread to other stone fruits if not controlled. To prevent later fruit damage, Dr. Weaver advises growers and home gardeners to continue spraying with additional applications of wettable sulfur.

## Cotton Insects Active in Georgia

ATHENS, GA. — The insect situation in Georgia for the week ended Aug. 17:

Heavy infestations of boll weevils were attacking young bolls in Jackson, Barrow, Forsyth, Bartow, Polk, Floyd, Gordon and Stephens counties. Aphids were light in Jackson, Barrow and Polk; moderate in some fields in Forsyth, Bartow, Gordon and Stephens counties.

Spider mites on cotton were moderate in Jackson, Barrow, Forsyth and Floyd; heavy in Polk, Bartow and Gordon. Heavy infestations of fall armyworm on millet were reported in Spalding and Meriwether counties.

Survey-type light traps at Experiment and Tifton have caught exceptionally large numbers of bollworm (corn earworm) moths during the last two weeks. Last week, 3,230 bollworm moths were taken from the Tifton trap during a 4-day period and 1,868 moths were taken from the Experiment trap within a 7-day period. During the previous week a total of 2,802 bollworm moths were caught in the trap at Tifton. —C. R. Jordan.

## Insect Damage General in Virginia

BLACKSBURG, VA. — Arthur P. Morris, associate entomologist at Virginia Polytechnic Institute, says fall armyworm outbreaks are expected to damage late corn and other host crops to some degree. To date they have been officially reported in only one southwestern Virginia county, but more trouble is expected.

Aphids, sawflies and green June beetle adults are troublesome on grapes and ripening peaches. Orchardists and small fruit growers are

## Unidentified Disease Hits Colorado Corn

identified corn disease is reported reaching epidemic proportions in eastern Colorado. W. J. Henderson, extension plant pathologist at Colorado A&M College, said the disease has been found in at least 10 of eastern Colorado's chief corn growing counties.

The plant pathologist suspects the disease is a new one. First detected in Morgan County about 5 years ago, it spread to other areas of the state in 1955. This year, it reached epidemic stages, with up to 50% of the plants in some fields infected.

In a typical infection, leaves die in the upper half of the plant. "We

don't know how much the disease will affect the yield," Mr. Henderson said. "But when the top half of the plant is dead, we know that the yield will be cut considerably."

While the effects are first noted in the upper part of the plant the disease is actually an infection in the root crown. There, the disease organism plugs up the water conducting tubes, thus reducing the plant's water supply. Mr. Henderson said the disease is caused by a soil-borne organism that may live and develop in the soil for a number of years. Although it has not been definitely pinpointed, the disease is tentatively identified as a "fusarium crown rot."



ised to be on the lookout for the  
ts and to apply chemicals as  
ded.  
locust leaf-miner damage to black  
st trees is general and heavy  
hroughout the state. A few reports  
hroughout the state. A few reports  
the Japanese beetle continue, but  
the pest seems to be definitely on  
down-grade for this year.  
green peach aphids, tobacco flea  
flies, hornworms and grasshoppers  
currently posing a serious threat  
tobacco in Virginia. These pests  
all have to be controlled. Stink  
damage also is probably quite  
eral.  
Bagworms and spider mites con-  
ne as the outstanding pests of or-  
mental plants.

### Illinois Reports Corn Borer Activity

URBANA, ILL.—This is the eighth  
and last in a series of weekly  
bulletins on the general insect situa-  
tion in Illinois (fruit insects except-  
ed) prepared by entomologists of the  
Illinois Natural History Survey, Uni-  
versity of Illinois College of Agricul-  
ture, and cooperating agencies. It  
designed to help the people of Illi-  
nois meet insect problems as they  
appear and, insofar as possible, to  
warn farmers of impending  
changes in insect activity.

Pupation of first-generation corn  
borer is complete. About 50% of  
the first-generation borers have  
pupated, and about 10% of the  
moths are yet to emerge. This is  
striking contrast to last year,  
when 94-100% of the first-genera-  
tion borers pupated.

Egg laying, although decreasing  
from the peak of the past two weeks,  
remains moderately heavy in the  
northern section (north of Highway  
36). Approximately 75% of the eggs  
have hatched in the central (between  
Highways 36 and 9) and north-cen-  
tral sections (between Highways 9  
and 6). In the northern section, only  
about one-half of the eggs have  
hatched. Moth flight is still quite  
noticeable, and appreciable egg lay-  
ing should occur for the next 10 to  
15 days in the northern section.

Bean leaf beetles, southern corn  
worm adults and grasshoppers  
have been reported feeding on soy-  
beans. Although in most instances  
damage is still not severe enough to  
arrant treatment, the situation  
is watching.

Grasshoppers are rapidly approach-  
ing the adult stage, but still remain  
concentrated in fencerows, roadsides  
and ditch banks. In some instances  
the grasshoppers are migrating to  
soybeans and corn, where they are  
damaging the marginal rows.—Steve  
Boore.

### Grasshopper Damage Noted in Missouri

COLUMBIA, MO.—During the last  
two weeks, 'hoppers have caused in-  
creasing marginal injury to row  
crops, legumes and pastures over  
much of the state. Early seeded  
small grain is being rather severely  
damaged in some fields in the south-  
east part of the state. This injury  
to fall seeded crops may be expected  
to continue up until frost unless con-  
trol measures are applied. This  
means that 'hoppers will have to be  
controlled in all fields surrounding  
the new seedings.

European corn borer egg mass  
counts on June planted corn con-  
tinue to rise to an average of  
about 125 egg masses per 100  
stalks in extreme southeast Mis-  
souri. Control should be applied  
when the fields will average 100  
egg masses per 100 plants.

Widely scattered fields in the  
southern half of the state have popu-  
lations of alfalfa aphids sufficient to  
arrant controls. Unfortunately we  
have no rule of thumb on numbers  
of aphids required before treatment  
is necessary. With the first sign of  
injury from this aphid, we believe

spraying will more than pay for it-  
self.

Small larvae of the corn earworm  
are becoming very numerous in the  
heads of grain sorghums over much  
of the southern and western parts of  
the state.—Stirling Kyd and George  
W. Thomas.

### Borer Moth Flight in Full Swing in Iowa

AMES, IOWA —The second corn  
borer moth flight is now (Aug. 18)  
in full swing. Many eggs are being  
laid, particularly in north central and  
northeastern Iowa. The moth flight  
is tapering off in the other two-thirds  
of the state.

In the Boone County study area  
emergence of second-brood moths is  
almost complete. Egg mass counts  
range up to 170 per 100 plants with  
the average at 42 per 100.

Two-spotted mites are still active  
on some soybean and corn fields,  
causing a silver or yellow mottling  
to the plant leaves. Due to high hu-

midity and rainfall these mites should  
begin to disappear. Alfalfa web-  
worms are being reported from some  
areas of southern Iowa. These are  
the yellowish green caterpillars with  
dark spots which are found feeding  
on the leaves.—Earle S. Raun.

### Weevil Damage Noted In South Carolina

CLEMSON, S.C.—Highlights from  
the South Carolina insect and plant  
disease report:

Heavier than average weevil dam-  
age to young bolls was noted in Pied-  
mont. Extremely heavy catches of  
bollworm moths were recorded in  
Florence.

Among tobacco diseases becoming  
more important in Horry County are  
black shank and wilts, Mosaic, Etch  
and leaf spot diseases.

The spotted alfalfa aphid was  
found in the state. Smut is unusu-  
ally severe in corn, female hybrid.  
Climbing cutworm damage has been  
reported in several acres of soybeans

in Saluda County. The truck station  
reports the first catch of velvetbean  
caterpillar of season. Heavy flights  
of corn earworm moths are occurring  
in the Coastal Plain area.

Charleston trap shows an increase  
in fall armyworm and corn earworm.  
Florence trap shows 13,202 corn ear-  
worm moths caught during week.  
Also 1,484 of the true armyworm  
gives concern, especially if showers  
and cool weather should occur. The  
cabbage looper is unusually abun-  
dant. Clemson light trap shows the  
armyworm and corn earworm on in-  
crease.—J. H. Cockran.

### Grasshoppers Abundant In Minnesota

ST. PAUL —In the southern one-  
third of Minnesota the majority of  
the two-striped grasshoppers (*M. bi-  
vittatus*) and the red legged grass-  
hopper (*M. femur-rubrum*) are in  
the adult stage. In the northern two-  
thirds approximately 50% are adults,  
(Continued on page 17)

# One of Millions

This advertisement, and  
millions like it, will appear  
this fall in farm journals and  
other agricultural  
publications throughout the  
Mid-West and Pacific coast  
areas. Millions of U.S.  
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AMMONIUM SULPHATE ..... 21-0-0

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# Nitrogen Applied in Autumn May or May Not Leach Out; Depends on Soil and Rain

Why does one farmer get good return from fall applied nitrogen whereas the farmer next door may get poor return? Why do experiment station agronomists in one state stress the importance of the form of nitrogen that is used whereas another state's agronomists may place little or no emphasis on the kind of nitrogen? We are thinking of the application of nitrogen in the fall for grain crops the following spring. For a good return, nitrogen used in fall must carry over and be available during the next growing season.

The answer to these questions is in an understanding of what can happen to nitrogen in the soil. Three different forms of nitrogen are found in the soil; the organic, the ammonia and the nitrate forms. Plants can use only the ammonia and nitrate nitrogen; their preference depends upon the soil pH, type of crop, the age of the crop and many other variables. Most plants, however, can use both forms quite effectively.

The conversion of nitrogen from one form to the other, that is from the organic to the inorganic ammonia or nitrate form, is a process which is largely carried out by soil micro-organisms. These organisms are really little animals living in the soil. They have physiological, environmental requirements like any other animal. Being animals, many factors determine how effectively and how rapidly they bring about the nitrogen conversions from the nitrate to ammonia to organic form and the reverse process of organic to ammonia or nitrates.

However, the three main factors which govern their activity are the kind of food, the amount of oxygen that is available and the temperature of the soil. These are the great regulators of the activity of the micro-organism. The acidity of the soil is also extremely important for the organisms that convert ammonia to the nitrate form of nitrogen. Since all four of these factors influence the activity, all must be considered in an understanding of what happens to nitrogen in the soil.

The organic forms of nitrogen remain in the soil where they are formed. They are largely water insoluble so, are not available to crops. Nitrogen in the organic form cannot be leached from a soil or accumulate at the surface of the soil by evaporating water.

The nitrate form of nitrogen is completely water soluble and is not absorbed on the soil clay or organic matter. In other words, the nitrates remain dissolved in the soil solution. Nitrate nitrogen moves wherever the water moves. If water leaches out of the soil through the drain tile, the nitrates present will leach with the water. If there is an extended drought, the nitrates will move up to the surface of the soil as the water evaporates from the surface.

That this happens is a well established fact. The refreshing effect of a summer shower after a drought in greening up the crops is partly due to the washing back of the nitrate into the root zone. Actual measurements in fields have shown levels of nitrate nitrogen up at three to four hundred parts per million in the surface one-quarter inch of the soil, after a short period of drought. If there was the same concentration of nitrates throughout the plowed layer there would be 800 lb. nitrogen an acre, enough nitrogen to grow six 80 bu. corn crops. Nitrogen in the dry surface crust of a soil is high and dry

## EDITOR'S NOTE

The author of this article is A. J. Ohlrogge, agronomy department of Purdue University, Lafayette, Ind.

since roots take very little nitrogen out of dry soil.

Ammonia nitrogen is immobile in the soil. It attaches itself to the clay and the organic matter. It remains fixed and cannot be leached from the soil to any appreciable extent no matter how much water passes through the soil. This has been demonstrated many times. In Indiana where 200 lbs. ammonia per acre had been applied at the plow layer, 90% of this ammonia nitrogen was still in the plow zone five months after application even after 17 inches of rain had fallen on the soil. Why was it still there? Simply because the nitrogen remained in the ammonia form adsorbed on the clay and the organic matter.

These characteristics of the nitrate and ammonia forms of nitrogen already begin to explain some of the whys of fall nitrogen application recommendations. Thus in the western part of the corn belt where there is no leaching of water through the profile, it makes little difference whether the nitrate form or the ammonia form is used. Both will be available next spring for the summer crop. But in the eastern part of the corn belt, winter and spring rainfall is high and there is a wide range in soil types. Some soils are very porous and allow water to leach through very rapidly, but others are extremely tight, allowing very little water to go through. On the well drained soils with high rainfall obviously nitrate nitrogen will not persist in the soil for any length of time. If nitrogen is to remain in such soils for extended periods of time, it will have to be in either the organic or the ammonia form where it is tied onto the clay and the organic matter.

It becomes obvious that the recommendations for fall applied nitrogen in the eastern corn belt then must be tied very closely to the kind of soil and the environment which is provided to the organisms responsible for nitrogen conversions.

The solution to the problem is to put on a form of nitrogen which is absorbed by the soil, but even more important is to apply nitrogen which will remain in the ammonia form tied to the soil of the root zone. It then becomes important to know the conditions under which ammonia will remain in the ammonia form.

Five factors are important in this conversion carried out by the micro-organisms—the little animals of the soil. Temperature, oxygen supply, organic matter, aeration and pH are the main factors.

## Temperature

There is no specific temperature found in soils at which all biological activity suddenly stops. The change in activity with temperature is a slow and gradual one. Even in nearly frozen soils the conversion of ammonia to the nitrate form occurs very slowly. Many times have the figures of 60° or 58° been quoted as the temperature at which ammonium type of nitrogen can safely be applied in the fall.

It is true, conversion is slower at these lower temperatures, but almost complete conversion from

the ammonia to the nitrate form is attainable in soils with a temperature less than 60° if all the other factors are favorable. Thus, in Rochester, Ind. on a well-drained soil with a pH of 6.4, only 20% of the fall-applied ammonium sulfate remained in the soil on May 2nd, even though the temperature of the soil had never risen above 55° F. at the point where the ammonium sulfate was applied. This soil has an ideal pH, for conversion of ammonia to nitrate, well drained with plenty of oxygen, and the organic matter had a narrow carbon-nitrogen ratio.

Contrast this to another soil near Lafayette, Ind. where 90 to 95% of the ammonium nitrate was still in the ammonia form on May 7th and the temperature had never risen higher than 53°. What was the difference? The difference was the degree of aeration and pH of the soil. The Lafayette soil was poorly aerated with a low pH of 5.2 in addition to the presence of wheat straw with a wide carbon-nitrogen ratio.

The aeration factor is extremely important. The conversion from ammonia to nitrate requires oxygen. Soils that are poorly drained have bluish-gray mottled subsoils that will retain ammonia in the ammonia form for extended periods of time because the oxygen is not there to permit the conversion to the nitrate form.

The kind of organic matter also plays an important part in the ammonia conversion. The bacteria will require a ration very similar to the dairy cow. If there is not enough nitrogen in the organic matter then very little of the ammonia will be converted to nitrates when the organic matter is broken down. In contrast, if the organic matter is high in nitrogen like alfalfa residues, or clover residues, then there will be a very rapid conversion of ammonia to the nitrate form if there is plenty of oxygen and the temperatures are ideal.

What does this all add up to? Simply this: no one factor alone is the solution to the storage of nitrogen in the soil. All of these variables must be evaluated. If a soil is extremely acid then it can be fairly well drained and still you will have good preservation of ammonia. If a soil is extremely poorly drained even though the organic matter may be fairly high in nitrogen and the temperature relatively high, conversion from ammonia to nitrate will be slow. If all four factors are at a medium level then this too will slow up the ammonia to nitrate conversion.

We have a good appreciation of how each of these factors influences nitrogen conversion; however, we have little quantitative information on what happens with average intensities of each of these factors. Many farm soils have fair aeration, the temperatures are around 65 to

70°, the pH is not extremely acid but ideal but in the neighborhood of 5.5 the organic matter is only medium in nitrogen. It is under such situations that exist under many farms in which we do not have enough information on nitrogen conversion. We can be pretty sure though that understanding the basic variables will give anyone a better approximation of what can be expected of any individual soil. There are, of course, those uncontrollable factors of weather which help to make the problem a challenging game.

## Plant Nutrient Loss Outrunning Fertilizer Use in Minnesota

ST. PAUL—Plant nutrient loss still outrunning fertilizer use on Minnesota fields.

Soils scientists at the University of Minnesota point out that crops are taking nearly 500,000 tons of nitrogen, phosphate and potash as nutrients out of state soils annually. In terms of an average complete mixed fertilizer, that would be more than 1½ million tons.

State farmers are replacing little more than 150,000 tons of plant nutrients yearly, or 370,000 tons of complete fertilizer. That leaves an annual deficit of 340,000 tons of plant nutrients or more than a million tons of complete fertilizer that is removed from the soil without being replaced.

**Biggest loss is nitrogen.** The soils men estimate that 1955 crops removed, as nutrients, 259,000 tons of actual nitrogen. Fertilizer records show that only 33,000 tons of nitrogen were applied that year, meaning that 226,000 tons of nitrogen had to come out of the soil reserves.

Estimates of plant nutrient loss show that crops in 1955 took about 130,000 tons of phosphate and 76,911 tons of phosphate went back on state soils. Estimated loss of potash to crops a year ago was 107,000 tons and state farmers replaced 43,000 tons in fertilizers. That left plant nutrient deficits this spring of about 53,000 tons of phosphate and 64,000 tons short on potash.

Recent soil tests show that most state soils need more nitrogen. Potash is lowest in north central and southeastern areas, but some potash is needed in all parts of the state except the counties along the western border of Minnesota.

Phosphate is in especially short supply in southwest and western county soils and in the Red River Valley.

Lime is needed, too. Soils men report that most extreme eastern counties are lime-deficient in more than 60% of their soils.

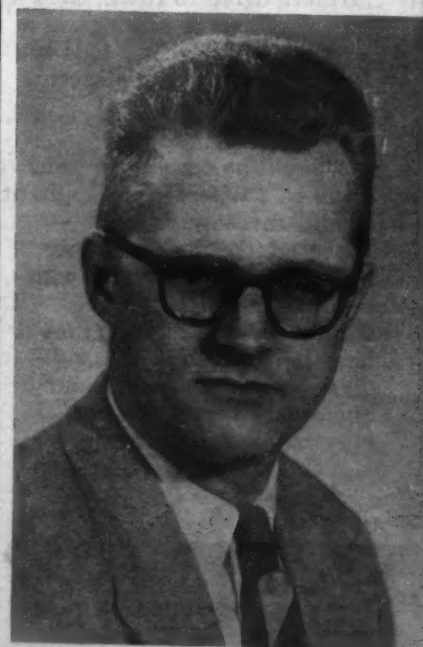
North central soils are sulfur-deficient in some places and some boron fertilizer helps on rutabaga crops near Askov and on peat soils around the Twin Cities.

## William A. Haigh Joins IMC Marketing Staff

CHICAGO—William A. Haigh has been appointed to the marketing staff of International Minerals & Chemical Corp. plant food division as supervisor of sales methods and training. Maurice H. Lockwood, vice president in charge of the division announced recently.

Mr. Haigh will have staff responsibility for directing the plant food division's sales training program, reporting to Gerard J. Carney, marketing staff manager. His work will also include the study of distribution methods and sales techniques.

Before joining International, Mr. Haigh was associated with the Oliver Corp. as assistant advertising and sales promotion manager. He is a graduate of Michigan State College and he served in the navy.

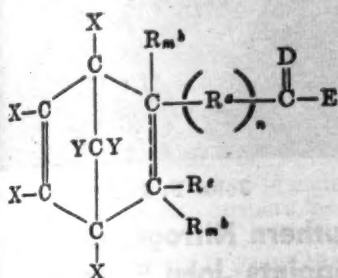


A. J. Ohlrogge



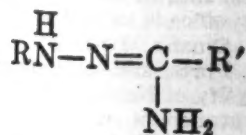
## Industry Patents and Trademarks

**2,758,918. Plant Regulators.** Patent issued Aug. 14, 1956, to Samuel B. Lowy and Juan G. Morales, Denver, Colo., and Johannes Van Overbeek, Modesto, Cal., assignors to Shell Development Co., New York. A plant regulator composition comprising as an active component in an amount sufficient to effect the growth processes of living plants in a chemical compound having a structure represented by the formula



wherein X represents an atom of halogen, each Y represents one of the group consisting of hydrogen and halogen,  $R_m$  represents one of the group consisting of the alkylene groups of from 1 to 3 carbon atoms, the hydroxy-substituted alkylene groups of from 1 to 3 carbon atoms, and the halogen-substituted alkylene groups of from 1 to 3 carbon atoms, each  $R_n$  and  $R'$  represents one of the group consisting of hydrogen and alkyl groups of from 1 to 4 carbon atoms, D represents one of the group consisting of O and NH, E represents one of the group consisting of hydroxy, alkoxy, aminoalkoxy, metalloxy, aryloxy and amino, n represents one of the group consisting of 0 and 1, both m's represent the same member of the group consisting of 0 and 1, and as adjuvant a horticultural carrier therefor.

**2,758,050. Hydrazidine Fungicidal and Bactericidal Compositions and Methods.** Patent issued Aug. 7, 1956, to Johannes Thomas Hackmann, Amsterdam, Netherlands, assignor to Shell Development Co., Emeryville, Cal. In the method for combatting pests, the application to the locus of plants of hydrazidines which have the general formula



wherein R is selected from the group consisting of aryl and aralkyl radicals and  $R'$  is selected from the group consisting of acyl radicals having not more than 5 carbon atoms and the cyano radical, whereby the amount of parasitic pathogens on said plants is lowered.

**2,758,051. Substituted 1-Benzoyl-2-Phenyl-Hydrazine Fungicidal Compositions and Method of Applying to Plants.** Patent issued Aug. 7, 1956, to Allen E. Smith, Oxford, George E. O'Brien, Bethany, and Adelaide Bornmann, New Haven, Conn., assignors to U.S. Rubber Co., New York. A fungicidal composition comprising a 1-benzoyl-2-phenyl hydrazine having a substituent in the benzoyl group in position ortho to the carbonyl group selected from the group consisting of hydroxy, carboxy, methoxy, ethoxy, nitro, methyl and ethyl radicals and having not more than one other substituent in the benzoyl group selected from the group consisting of chloro, nitro, hydroxy, carboxy and methyl radicals, the phenyl group attached to the nitrogen being unsubstituted, and a fungicidal adjuvant therefor, said adjuvant comprising a surface-active wetting agent.

**2,758,052. 1-Benzoyl-2-(4-Chlorophenyl) Hydrazine Fungicidal Composition and Method of Applying to**

**Plants.** Patent issued Aug. 7, to Allen E. Smith, Oxford, George E. O'Brien, Bethany, and Adelaide Bornmann, New Haven, Conn., assignors to U.S. Rubber Co., New York. A fungicidal composition comprising 1-benzoyl-2-(4-chlorophenyl) hydrazine and a fungicidal adjuvant therefor, said adjuvant comprising a surface-active wetting agent.

**2,758,053. Method of Controlling Fungi on Plants and Seeds with Benzoyl Phenyl Hydrazines.** Patent issued Aug. 7, 1956, to Allen E. Smith, Oxford, George E. O'Brien, Bethany, and Adelaide Bornmann, New Haven, Conn., assignors to U.S. Rubber Co., New York. The method of controlling fungi on plants and seeds which comprises contacting fungi on plants and seeds with a fungicidal amount of material selected from the group

consisting of 1-benzoyl-2-phenylhydrazine, 1-(2-chlorobenzoyl)-2-phenylhydrazine, and 1-(2,4-dichlorobenzoyl)-2-phenylhydrazine.

**2,758,054. Substituted 1-Benzoyl-2-phenyl) Hydrazine Fungicidal Compositions and Method of Applying to Plants.** Patent issued Aug. 7, 1956, to Allen E. Smith, Oxford, George E. O'Brien, Bethany, and Adelaide Bornmann, New Haven, Conn., assignors to U.S. Rubber Co., New York. A fungicidal composition comprising a 1-benzoyl-2-phenyl hydrazine having only one substituent in the benzoyl group, said substituent being selected from the group consisting of chloro, nitro, hydroxy, carboxy and methyl radicals and having one substituent in the phenyl group selected from the group consisting of chloro, nitro and methyl radicals and not more than one other substituent in the phenyl group selected from the group consisting of chloro, nitro and a fungicidal adjuvant therefor, said adjuvant comprising a surface-active wetting agent.

## Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of \$25 must accompany each notice of opposition.

The following trademark was published in the Official Patent Office Gazette, Aug. 14, 1956:

**Safe 2-U**, in heavy caps and lower case letters, for insecticides packaged in pressurized containers. Filed July 29, 1955, by Demert & Dougherty, Inc., Chicago. First use on or about July 18, 1955.

## FLORIDA MEETING

**MIAMI BEACH**—The 13th annual convention of the Florida Fruit & Vegetable Assn. will be held at Hotel Fontainebleau here Sept. 27-29. Requests for convention and hotel reservations should be sent to the association, Box 6787, Orlando, Fla.

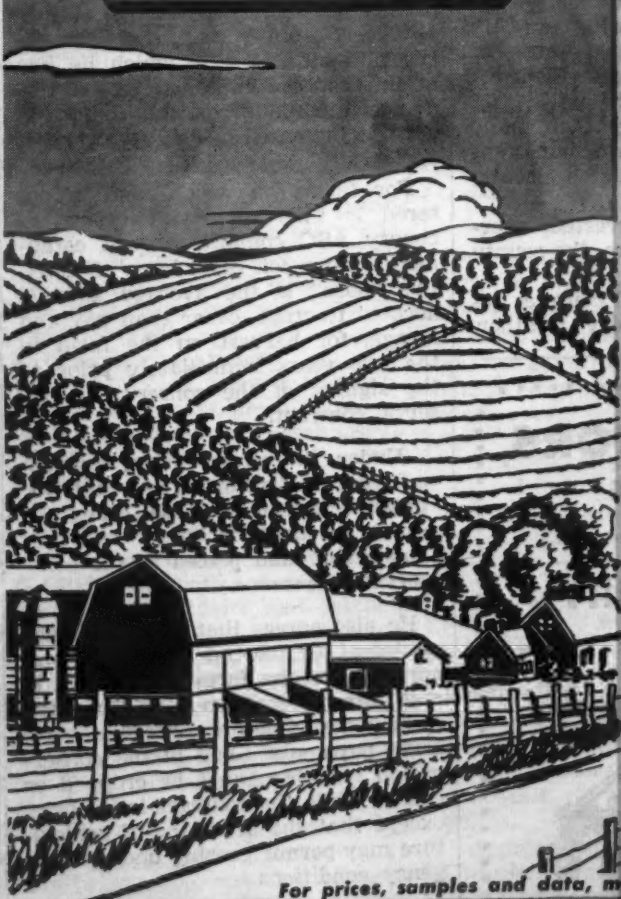
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Elwood M. Myers

**PROMOTION** of Elwood M. Myers to director of advertising of Victor Chemical Works was announced recently by M. R. Stanley, vice president and director of sales. Joining Victor in 1941, Mr. Myers became a member of the company's sales staff in Kansas City. Shortly thereafter he returned to Victor's executive offices in Chicago, and has been advertising manager since 1944. Prior to Victor, Mr. Myers was associated with Belnap and Thompson, Inc., Wilson & Co., meat packers, Prater Pulverizer Co. and Pontiac Engraving & Electrotype Co. He attended Purdue University and the University of Illinois.

### Wisconsin Lime, Fertilizer Tour Set

MADISON, WIS.—A lime and fertilizer industry tour of central Wisconsin has been scheduled by the University of Wisconsin for Sept. 6-7. The tour will make stops at farms and demonstration fields from Columbia to Wood counties.

Members of the tour committee are A. R. Albert, chairman, A. E. Peterson and J. Wojta, all from the University of Wisconsin soils department. Transportation will be by personal cars.

### Nepal Awarded ICA Insecticide Authorization

WASHINGTON—International Cooperation Administration has announced a \$242,000 authorization to Nepal for purchase of Dieldrin insecticide, 50% water wettable powder. Source is worldwide and terminal delivery date is Oct. 30. Procurement will be carried out through the Emergency Procurement Service, General Services Administration.

### Drouth Situation Eased Somewhat In Mid-South States

MEMPHIS—Some easing of the drouth situation was noted in sections of the Mid-South last week when soaking rains moved into the territory.

Earlier extension officials had said insects and dry weather were cutting into the Mid-South's farm profits.

Extent of the farmers' loss still is seen in the report that the cotton crop is off from one-eighth to one-fourth bale per acre.

Extension officials in Arkansas, Mississippi, Missouri and Tennessee said all crops were hurt by the weather and that rain was needed urgently to make the soybean crop. Parts of Arkansas, West Tennessee and North Mississippi received good rains.

Dry weather continued to bring problems to many Mississippi farmers during the past week, the Mississippi Agricultural Extension Service said.

The migration of boll weevils is heavier, said David Young, Jr., assistant extension entomologist. This migration is from cotton cutting out due to dry conditions to cotton plants green from local showers or irrigation.

The cotton yield is expected to be reduced from one-eighth to one-fourth bale per acre average in many areas because of the lack of moisture, T. M. Waller, extension cotton specialist, said.

Late corn in particular has been badly hurt by dry weather, said W. R. Thompson, extension agronomist. Also injured in many areas are pastures, soybeans and silage crops.

The Arkansas crop picture remained one of needing rain on all crops.

Cotton was showing effects of the hot, dry weather with widespread shedding of small bolls and squares reported, the Agricultural Extension Service reported.

Boll worms were giving some trouble, mainly in irrigated fields, and the red spider and aphid infestations have increased.

The Extension Service added, however, that despite the present unfavorable factors, a good cotton crop still was in sight.

Soybeans were reported in great need of rain in most counties.

Southeast Missouri cotton crops have stopped producing because of the drouth, W. F. James, Pemiscot County agent at Caruthersville, said.

Because of the dry weather, many bolls already have opened, but crops are fairly good despite the drouth, Mr. James said.

Corn, now being harvested, averages 60 to 80 bu. per acre, the county agent said.

In West Tennessee all counties reported damage from dry weather.

### CONSERVATION

(Continued from page 1)

on land placed in the acreage reserve.

The conservation reserve program will be available for 1956 to farmers who are in a position to comply with its provisions and who enter contracts with the U.S. Department of Agriculture on or before Oct. 15. It also is available up to March 15, 1957, to farmers interested in contracts beginning in 1957.

All farm land regularly used in the production of crops is eligible for the conservation reserve program except land designated for the acreage reserve.

To participate in the conservation reserve, farmers must sign contracts with USDA through their county Agricultural Stabilization and Conservation Committees. Generally, the minimum acreage that will be accepted under the program is five acres, but it can be only two acres if trees are planted. Special provisions are made for small farms.

Contracts will range from 3 to 10 years, depending upon whether the land placed in the conservation reserve is to have cover crops established, and 10 to 15 years in the case of land planted to trees.

Two kinds of payments are made under the conservation reserve program. They are:

(a) A cost-sharing payment to assist in the establishment of soil and water conservation practices on the land designated for the conservation reserve. This payment, determined by state and county ASC committees, can range up to 80% of such costs. It will be made only in case of contracts covering a period of at least five years.

(b) An annual payment on the land put in the conservation reserve. This will be a per-acre rate multiplied by the number of acres put in the conservation reserve. The national average per-acre rate is \$10, but this will vary among states and counties.

Both payments will be made for the year in which a conservation practice is first established. The annual payment will continue to be made each year the contract is in effect and contract conditions are met. Total annual payments to any producer, for any year, and with respect to all farms in which he has an interest, are limited to \$5,000. Under certain conditions, this limitation may be increased by the secretary of agriculture.

For farms on which land is entered in the conservation reserve, county ASC committees will establish a "farm soil bank base." Briefly, this "base" is the average acreage devoted to crops, other than hay and forage, for harvest on the farm in the two years immediately prior to the signing of the conservation reserve contract.

Under the conservation reserve contract a farmer agrees not to produce soil bank base crops in excess of his farm "base" less the amount of land placed in the conservation reserve.

He also agrees that if any acreage allotment, or the soil bank corn base acreage, for the farm is exceeded in any year the contract is in force, the farm is ineligible for conservation reserve payments. Land in the conservation reserve cannot be cropped or grazed while the contract is in force, except that the secretary of agriculture may permit grazing under emergency conditions.

### AGRONOMY FIELD DAY

FORT COLLINS, COL.—Agronomy Field Day will be held at Colorado A&M College Sept. 6.



John P. Porter

### Southern Nitrogen Co. Appoints John P. Porter

SAVANNAH, GA.—Southern Nitrogen Co., Inc., has announced the appointment of John P. Porter as sales supervisor for the company. His new responsibilities, beginning Aug. 1, include the selection, training and supervision of sales personnel.

Mr. Porter is a native of North Carolina, attended the University of that state and also business college in Charlotte. His career in the fertilizer industry began with F. S. Royster Guano Co. for which he worked in various sales capacities for 21 years, learning marketing conditions in the southern area and the problems faced by fertilizer manufacturers in the territory. He is currently a vice president of the Georgia Plant Food Educational Society. His headquarters will be in Savannah.

### Wilson & George Meyer Open New Sales Office in Omaha

SAN FRANCISCO—A new sales office has been opened in Omaha by Wilson and George Meyer and Company Intermountain, exclusive sales agents for the recently expanded 150,000-ton annual output of phosphatic plant foods produced by Western Phosphates, Inc., at Garfield, Utah.

The new office is located at 140 So. 40th St., Omaha. It is in charge of John J. Portz, a 1949 graduate of the University of Nebraska in agronomy and economics, who previously was connected with Lincoln Service and Supply, Inc., as sales supervisor in Falls City, Neb. He is a veteran of the Navy.

The new office will provide increased representation and service to the company's customers in North Dakota, South Dakota, Nebraska, Kansas and Western Iowa. For the past three years customers in these states have been served directly from Salt Lake City.

The products handled by the firm include pelleted treble superphosphate and ammonium phosphates. Wilson and George Meyer and Company Intermountain has its head offices in San Francisco with district offices in Salt Lake City, Los Angeles, Portland, Seattle, Spokane, Denver, Phoenix, Fresno and now Omaha.

### LIGHT FRUIT CROP

STATE COLLEGE, N.M.—John O. Kling, extension economist at New Mexico A&M College, says preliminary reports indicate that New Mexico will have a very light peach crop this year, and that apple reduction in the state will vary from about a 30% crop in Otero County, to an estimated 80% crop in San Juan County. Apple production for the entire state is now estimated at 411,000 bu., as compared to the 1944-53 average of 592,000 bu.

## AQUA AMMONIA APPLICATORS

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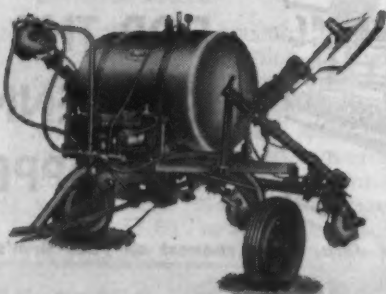
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# Better Selling

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

## Trends in the Sale, Distribution and Use of Farm Chemicals in the West

By JESS F. BLAIR  
Croplife Special Writer

I recently completed a 4,500 mile trip through the western states for Croplife. I interviewed dozens of store owners, entomologists, visited experiment farms and talked to county agricultural agents, farmers and college professors.

From this experience, it seems that farm chemicals are here to stay, but great changes are taking place in the industry, particularly at the dealer's level.

Part of this is being caused by changing selling methods and part of it because of the prolonged drouth that has spread deeply into most of the states. Throughout New Mexico and Arizona, and in parts of Utah, Wyoming and Colorado severe drouths have curtailed the use of fertilizer in many areas.

It must be remembered that nearly all these states depend upon irrigation water for farming. These farmers are affected by dry weather almost as much as the producer back in the prairie states. Stream flow is down almost everywhere and reservoir storages are much less than two years ago. Also underground water supplies have dropped to raise costs and lower production in many areas.

In part of Central Arizona good farming land is lying idle because the ever-deepening of water wells has caused pumping costs to skyrocket. In central and southern Utah where farmers depend upon water from the mountain reservoirs, water shortages are seriously affecting this year's production of sugar beets.

In several small valleys in Wyoming water allotments have been reduced or shut off altogether as stream flow diminished. In the area around Amar, Colo., farmers in the fertile Arkansas Valley received their last water in May, and in some fields were sitting alfalfa that had already turned brown.

These dry areas are being offset somewhat by new irrigation areas being established. Just north of the Snake River in Southeastern Idaho vast amount of desert land is now being put into cultivation and watered with sprinkler systems. At present around 50,000 acres have been plowed, and there is possibly twice this much available land left. Also a few new irrigation areas are being opened in Arizona, New Mexico and in the old west bowl of Colorado.

Fertilizer sales have dropped in these dry areas, but not as much as one would think. Farmers with less water often use even more fertilizer per acre in order to increase the per-acre yield.

There is also a growing change in the type of fertilizer used. Liquid nitrogen fertilizer is becoming popular wherever it has been tried, and phosphorus in liquid form is beginning to receive attention. Many dealers who saw this trend are now reaping a nice profit.

Any decrease in fertilizer is only temporary, county agents and fertilizer salesmen say, and will greatly increase when rains and snows bring back normal stream flow.

In the field of insecticides, not even

### EDITOR'S NOTE

Jess F. Blair, a Croplife special writer, recently completed a swing of the western states on a writing assignment for Croplife. In this article he outlines some of the trends in farm chemicals in the area. Other stories by Mr. Blair, including reports of how specific dealers are boosting sales, will appear in future issues of Croplife.

the drouth has had much effect. New insects in many areas have kept the sprayers and dusters more busy than usual. In the potato areas of Idaho the Colorado potato beetle is giving more trouble than ever before. Fruit insects in Colorado have become quite a problem. And in New Mexico and West Texas, grasshopper invasions are becoming a customary thing, while cotton insects in these same areas show no signs of changing their eating habits.

The insect requiring the most at-

tention is the spotted alfalfa aphid. It has been slowed down but not stopped, and it takes large amounts of pesticides to keep him in this position. At Phoenix, the sales director of a large firm said farmers around there were now treating their alfalfa fields all winter. He said the sale of insecticides for this one pest would more than offset any loss of sales because of the drouth.

The aphid has spread into parts of Utah and Nevada and seems to be working its way northward. It had been found in parts of Utah this summer for the first time. One group of farmers were trying to get a local law passed which would force farmers to practice control measures whenever the aphid was found.

Along with increasing sales of pesticides, however, has come a broader distribution pattern which has tended to alarm the dealers. Some feel that their share of the business is being encroached upon

(Continued on page 13)



### SHOP TALK

### OVER THE COUNTER

### FOR THE DEALER

By EMMET J. HOFFMAN  
Croplife Merchandising Editor

One successful method of keeping the farm supply store's management and personnel "on their merchandising toes" is the use of a "store appearance score card," claims one retailer.

The retailer reports that he fills out a score card regularly, similarly to the way a school report card is filled out after the student's examination.

The "store appearance score card" allows 20 points if the general store appearance is perfect; 35 points for perfect office and display room conditions; 25 for ideal warehouse conditions; 10 for neat employees, and 10 for trucks and equipment in good condition. The

perfect score of course is 100 points.

Under each of the five main divisions for judging the store are listed some of the practices or points which the manager may examine. Here are the breakdowns:

#### 1. General appearance:

Premises: Free from rubbish, weeds, grass, papers, etc. 10 points.

Buildings: Signs and poster prominent and up-to-date. Only approved advertising displayed. Paint in good condition. Outside lighting satisfactory. Free of accident and fire hazards. 10 points.

#### 2. Office and display room:

Floors, desks, tables and cabinets neat. Only essentials in and on same. Desks not littered with undone work. Files up-to-date and regularly cleaned out. Office machines covered and free of dust. Absence of junk. Floor clean. Furniture, desks, etc., free of dust. Windows clean. 10 points.

Displays neat, free of dust and showing evidence of frequent change. Merchandise properly marked as to selling price, code, etc. Closets, cabinets, etc., orderly and free of junk. Absence of merchandise piled or placed on floor unless a part of a special display. Live displays neat. 10 points.

Lavatories and other equipment clean throughout. Towels, paper cups, etc., in suitable containers and in generous supply. 5 points.

Walls painted and clean. Only approved advertising and calendars on walls. No papers or memos stuck on walls except bulletin board and retail lists posted in appropriate places. Literature racks or hooks convenient and up-to-date. 10 points.

#### 3. Warehouse:

Floor free of dirt, including bags next to floor. Broken package department neat. Absence of accident hazards. Farm supply items neatly stored and cartons appropriately coded. Empty bag department orderly. 10 points.

Bags piled same number high and marked for inventory taking with chalk. Absence of torn bags. Freedom from rat and mouse damage. 10 points.

Approved advertising only on walls. Orderly arrangement of equipment and inventory. Freedom of accident hazards such as nails, broken floor and steps, etc. Free of fire hazards. Fire extinguishers in proper place

(Continued on page 16)

## 1955 California Sales Gain 18% For New Record

SAN FRANCISCO—Sales of commercial fertilizers in California during 1955 reached almost a million tons and established a new all-time record high with a gain of more than 18% over the previous year.

The State Department of Agriculture estimated the sale of 976,160 tons during the calendar year, a substantial increase from the 833,556 tons sold in 1954, a record up to that time. Each quarter of the year was well above the corresponding three-month period of 1954, and, with the exception of the fall quarter, established a record of its own. Only in 1951 when 196,791 tons of commercial fertilizer were sold in the state was the 190,918-ton figure established for the Oct. 1 to Dec. 31 period in 1955 surpassed.

Almost an even third of the year's total tonnage was sold between April 1 and June 30 when 324,379 tons of commercial fertilizer were bought by California farmers.

Dry mixed fertilizers accounted for 21% of the year's total during 1955. Some 207,512 tons were reported sold by the Department of Agriculture, to make up the largest single group.

Other top-ranking chemical fertilizers include ammonia solution with 175,745 tons and ammonium sulfate with 154,720 tons.

Significant tonnage sales were also recorded by superphosphate normal, 61,589 tons; ammonium phosphate sulfate, 61,426; anhydrous ammonia, 59,271; ammonium nitrate, 56,053; mixed fertilizers, liquid, 38,637; calcium nitrate, 30,213; superphosphate treble, 17,189; urea, 16,363; and sewage sludge, 13,049.

Some 19 other chemical compounds plus several "miscellaneous" chemicals not individually listed comprised the remainder, each selling less than 10,000 tons.

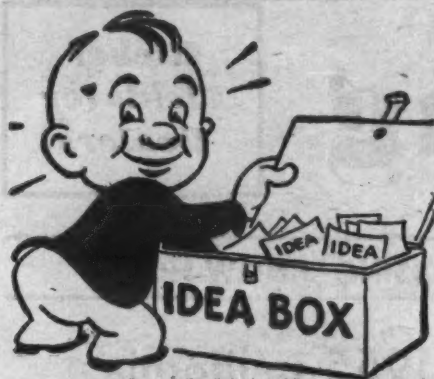
The four most important dry mixed commercial fertilizers, attaining sales levels above 10,000 tons, were 10-10-5, with 18,398 tons; 10-10-10, with 17,024 tons; 8-8-4, with 15,522 tons; and 17-7-0, with 15,177 tons. There were also 19 other dry mixed fertilizers in lesser amounts plus miscellaneous and unsegregated sales which together accounted for 78,604 tons of fertilizer sales.

Agricultural minerals also showed a gain over 1954, but was the next to the lowest in sales since 1951. Between 1952 and 1954 sales of agricultural minerals in the state dropped from a record high of 817,255 to 618,255, rising again during the past year to 695,972, but still below the 1951 figure of 700,356.

As usual the fluctuation in the sale of gypsum products controlled this total, since this single mineral accounted for more than 82% of the total sales during the year. There were 572,511 tons of gypsum sold in 1955, far above the second-place position held by sewage sludge with 29,177 tons.

Other mineral sales above 10,000 tons were calcium carbonate, with 16,752 tons, and soil sulfur, with 14,729 tons. There were also 15 other classes of minerals, plus miscellaneous.





## What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

### No. 5518—Net Weighing Machine

A new automatic net weighing machine has been announced by the Exact Weight Scale Co. Company officials state that "the machine incorporates an even balance 1 to 1 ratio precision industrial scale with visual indicator; smooth operating net weigh hopper and automatic cut-off controls with efficient material handling equipment. The over-under indicator for visual checking eliminates need for a separate checkweighing operation. Calibrated adjustments with counterweights of known value, graduated beam and poise and scale indicator make this an ideal weighing machine for packaging, sacking or batching." Two models, one for weights up to 3 lb., and the other from 3-10 lb., are available. Secure more complete details by checking No. 5518 on the coupon and mailing it.

### No. 5519—Insecticide

The Pest Control division, J. I. Holcomb Mfg. Co., Inc., is producing a new concentrated insecticide which the company recommends for use as a grain protectant. The product mixes with water to produce a spray claimed to be non-toxic and safe to use around all foodstuffs. The product, known as Insekil E. C., contains pyrethrins and piperonyl butoxide,

and is said to produce quick knock-down and kill of a large number of flying and crawling insects. Gallon and quart size containers are being used. For more information check No. 5519 on the coupon and mail it to this publication.

### No. 5520—Floor Cleaner

Multi-Clean Products, Inc., has introduced a new lightweight 12-in. floor cleaning machine known as the Lite 12. It weighs 35 lb., and is said to be ideal for areas up to 2,000 sq. ft. Helical gears revolve on ball bearings, insuring positive drive and quiet operation, the manufacturer claims. The gear unit is lubricated for life and requires no maintenance. The machine has a full 12-in. brush spread with a speed of 175 rpm. It is powered by a 1/4 h.p. industrial type motor. Secure more complete details by checking No. 5520 on the coupon and mailing it to this publication.

### No. 6457—Agricultural Chemicals

A new book designed to give a general description of the company's agricultural chemicals has been prepared by the Shell Chemical Corp. Included in the text is information concerning the uses for aldrin, dieldrin, endrin, D-D soil fumigant,

Nemagon soil fumigant and allyl alcohol. In addition to general product information, a master insect control list for the insecticides and a literature order blank are included. To order any of the company's literature, the order page may be torn out, the quantities desired filled in along with the proper address. Secure the book without charge by checking No. 6457 on the coupon and mailing it to Croplife.

### No. 6458—Tractor Shovels

Bulk material handling methods in fertilizer plants and other chemical industries is described in a new bulletin published by the Frank G. Hough Co. The bulletin is entitled, "Modern Payloader Tractor Shovels in Industry." Specifications for the company's line of tractor shovels are included, as is a map showing the locations of the more than 200 distributors handling and servicing the company's units. A copy of the bulletin will be sent if you will check No. 6458 on the coupon and mail it to Croplife.

### No. 6459—Gardening Movies

Four sound, color, 16 mm gardening movies are available for showing without charge, announces Swift & Co. officials. The four are: "Dreams Come True," (parts one and two); "Food for Thought" and "How Does Your Garden Grow?" For further information check No. 6459 on the coupon, clip and mail it to Croplife.

### Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

### No. 6454—Dispersant Bulletin

A seven-page technical bulletin No. 306 describing the use of Polyfon, sodium lignosulfonate as a moderately active dispersant in wettable insecticide powders has been published by the Polychemicals division, West Virginia Pulp & Paper Co., and is available upon request. The product is made in five grades varying in degree of sulfonation. Three of the grades are said to be widely used as dispersants for wettable powders. The firm's announcement states that "there are numerous other commercial and potential applications for the various grades of Polyfon where a dispersing agent of moderate activity is required." The bulletin describes the product in more detail and lists some of these uses. The bulletin describes properties of the product and

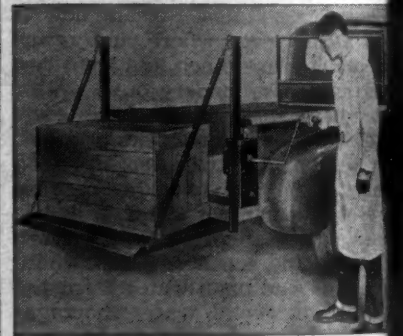
gives instructions for preparing secticide wettable powders. Among the formulations given are those DDT, dieldrin, aramite, heptachlorophene and malathion. The product has also been used successfully making wettable powders with chlordane, BHC, parathion, aldrin and Diamond Alkali K-101, it is announced. Secure the bulletin checking No. 6454 on the coupon and mailing it to Croplife.

### No. 6456—Fertilizer Handbook

A handbook on fertilizer management has been printed by the Kansas City Testing Laboratory as a service to fertilizer dealers and the customers and is available at a nominal cost. The 26-page booklet is a project of the soil consultant division of the 47-year-old company which was established recently to act as a completely independent soil testing facility for agricultural interests primarily in the Midwest. Several chapter headings include "General Management of Soils," "Meaning of Soil Test Values and Fertilizer Suggestions," "Fertilizer Recommendations for Various Crops" and "How to Get the Fertilizer Management Program at Your Farm." The booklets not only are suitable as a guide to dealers but may be obtained at a nominal cost for dealer customers. The firm also offers a soil sampling program for dealers. More complete details may be had by circling No. 6456 on the coupon and mailing it to Croplife.

### No. 5509—Elevating Tail Gate

Mid West Body & Manufacturing has announced its new "Jiffy-Lift" elevating tail gate for pickup and



express truck bodies. The product is a completely "packaged" kit, ready to install. It weighs 175 lb. and six bolts are needed for installation. The all-steel, ramp-type elevating tail gate has a capacity of 600 lb. The patented design features a lifting mechanism, having ball bearings throughout for easiest operation, company spokesmen say. Secure more complete details by checking No. 5509 on the coupon and mailing it to the publication.

### No. 6452—Brochure

A 12-page illustrated brochure that gives information for help in controlling flies, mosquitos and other insects has been released by the Chemical Insecticide Corp. The brochure describes Chem-Hex T, trade name for a newly developed formulation that contains both pyrethrum for quick kill and a neutralized form of benzene hexachloride for residual kill. It gives instructions for the use of the product in all types of sprayers and reports on its effectiveness in field tests. Secure the brochure by marking No. 6452 on the coupon and mailing it to the publication.

### No. 6455—Product Bulletins

The American Potash & Chemical Corp. has issued informational product bulletins on the series of electrolytic chemicals produced at its Henderson, Nevada, plant including sodium and potassium chlorate, ammonium and potassium perchlorate and manganese dioxide. Bulletins on the company's chlorates and perchlorates are intended for use by manufacturers

#### Send me information on the items marked:

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killers, defoliants and other in-  
secticides. The bulletins include analy-  
ses, descriptions and applications in  
the manufacturing processes of  
the company's electrochemicals. Se-  
lect the bulletins by checking No.

#### No. 5415—Farm Scale

A newly-designed farm scale suit-  
able for handling by feed dealers  
has been designed by the American  
Farm Scale Co. for dairy and poul-  
try farmers and other general use.  
The scale is claimed to have an easily  
adjustable pointer to make quick al-  
lowances for tare weight of weighing  
bins, milk pails and feed containers.  
Capacity is 60 lb. by 2/10th lb. plus a  
10 lb. allowance for tare weight, or  
total of 75 lb. Trade-named the  
"75," it has a white dial  
with a diameter of 7 in. and  
large numbers. The finish is gray  
enamel and all working parts  
are specially treated to prevent rust.  
For more complete details and in-  
formation about distributorships by  
checking No. 5415 on the coupon,  
clip and mailing it to this publi-  
cation.

#### No. 5416—Manlift

Bulletin

Construction features and applica-  
tions of the company's manlift for  
floor transportation are de-  
scribed in a new bulletin prepared  
by the Allis-Chalmers Manufacturing  
Co. The manlift is also designed to  
move bags and other packed ma-  
terials and can be furnished with  
bags and bag carriers alone or in  
combination. The bulletin is avail-  
able without charge. Check No. 5416  
on the coupon, clip and drop it in the  
mail.

#### No. 6450—Granulation Unit

A new brochure describing the Fee-  
granulation unit manufactured by  
Fertilizer Engineering & Equip-  
ment Co., Inc., is available without  
charge. The brochure describes the  
operating features and flexi-  
bility of the dryer-cooler combination  
unit, as well as general specifications  
and installation notes. The unit in-  
cludes dryer drum, spur gear drive,  
union base, heavy duty bearings,  
chilled wheels, hammer lifts,  
hammers, intake and discharge hop-  
pers, heavy steel framework, cooler  
drum with drive, high capacity-low  
speed fans, ductwork, cyclones,  
necessary support steel and high re-  
sistance type pyrometer with six-  
position selector switch. Over-all length  
of the unit is 32½ ft. The brochure  
can be mailed if you will check No.  
6450 on the coupon and mail it to  
Croplife.

#### No. 6453—Insect Handbook

A publication called "Insect Con-  
trol Handbook" has been prepared  
for Successful Farming magazine for  
wider distribution. Quantity orders  
will be accepted and for a nominal  
charge the name of the company can  
be imprinted on the back cover. The  
handbook was written by J. H. Lilly,  
of Iowa State College, for the maga-  
zine's publisher, the Meredith Pub-  
lishing Co. Included in the handbook  
are sections devoted to general feed-  
ing of corn insects, forage legume in-  
sects, soybean and small grain pests  
and sorghum insects. The handbook is  
intended for use by the farmer in  
controlling various insects. For price  
and other information check No. 6453  
on the coupon and drop it in the mail.

#### No. 6451—Irrigation

A new booklet, "Farm Irrigation in  
Michigan - Pennsylvania - Ohio," has  
been published by Capper-Harman-

Slocum, Inc., and is available with-  
out charge. Figures concerning crop  
production, irrigated acreage and pas-  
ture land are the latest available for  
the three states, according to the  
company's announcement. To secure  
the booklet, check No. 6451 on the  
coupon and mail it to Croplife.

#### No. 6449—Soil Sterilant

A six-page leaflet which outlines  
the various methods by which the  
soil sterilant, trade-named Vapam,  
may be used to destroy weeds, fungi,  
nematodes, and soil insects has been  
published by Stauffer Chemical Co.  
The leaflet details the types of pests  
which the water-soluble soil steri-  
lant will control and how it may be

applied by hand, sprinkler, injection,  
plow sole and in irrigation waters on  
soils for preplant treatments of seed  
beds, potting soil, ornamentals, nur-  
sery stock, field crops, row crops,  
orchards, vineyards, turfs and lawns.  
Copies are available without charge.  
Check No. 6449 on the coupon and  
mail it to Croplife.

#### No. 6448—Sales Aids

comprising newspaper mats, display  
banners, posters, radio commercials  
and promotional literature are avail-  
able to dealers from the Agricultural  
Ammonia Institute. A nominal charge  
is made for some of the sales aids,  
according to institute officials. Secure  
more complete details and price quo-  
tations by checking No. 6448 on the  
coupon and mailing it to Croplife.

## Better Selling

Richer Sales Fields for Dealers

### Coke Oven Ammonium Sulfate Output Dips

WASHINGTON—Production of  
coke oven ammonium sulfate during  
June totaled 158,460,603 lb., compared  
with 170,187,144 lb. in May and 162,-  
448,000 in June a year ago, accord-  
ing to the Bureau of Mines.

Output during the first half of this  
year was 996,979,019 lb., compared  
with 976,678,300 lb. during the first  
half of 1955.

Sales during June amounted to  
147,770,274 lb. compared with 186,-  
457,391 in May and 139,266,800 in  
June, 1955. Stocks on hand at the  
end of June totaled 292,669,663 lb., a  
gain over 195,705,977 at the end of  
June, 1955.



#### PENCO DEFOLIANTS AND DESICCANTS

ENDOTHAL\*

DE-FOL-ATE®

PENITE-6X®

PENTA CONCENTRATE 40

DESICCANT L-10

\*Endothal is the accepted generic name for 3, 4-endoxohexahydrophthalic acid. The manufacture and use of endothal products are covered by one or more of the following U. S. patents: 2,550,494; 2,576,080; 2,576,081; 2,576,083; other pats. pend.

THROUGH pioneering research and development of defoliants and desiccants, PENNSALT has become a leader in this field of agricultural chemicals. Because chemical harvest aids make harvesting easier, more economical and, therefore, more profitable, the use of these products is rapidly increasing. Through technical development, PENNSALT is constantly striving to improve its widely used defoliants and desiccants. In the meantime, in seeking a perfect defoliant, several candidates are being field tested. The newest one is PENCO DESICCANT L-10, which is available only in Texas this season for use on cotton.

So, for increased sales and profits, stock the broad line of PENCO defoliants and desiccants. Write your nearest PENNSALT CHEMICALS office for service bulletins.

### PENNSYLVANIA SALT MANUFACTURING COMPANY OF WASHINGTON

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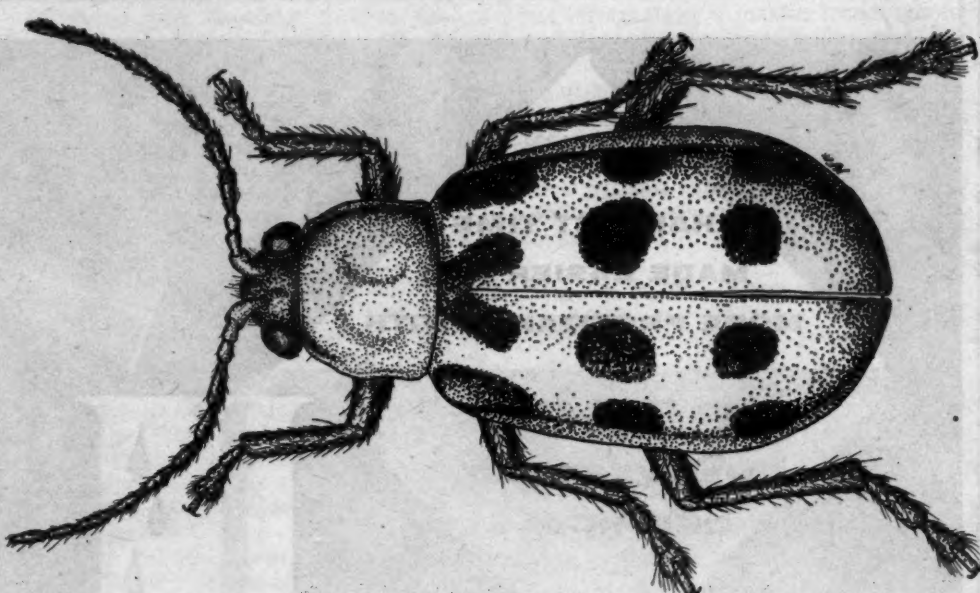
**Pennsalt  
Chemicals**



## BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

### Spotted Cucumber Beetle



#### How to Identify

As noted in the illustration, the most conspicuous characteristic of the spotted cucumber beetle is its spots. Next, however, is its antennae, usually about half to two thirds as long as the body, and nearly black in color. The bug's body itself is yellowish, or yellowish-green. The head is black.

#### Life History of Beetle

Females deposit their eggs in the ground near the bases of plants. Upon hatching, the young larvae bore into the roots and the underground portions of the plant's stem. They become adults during July. In the southern portion of the country, the pest has two full generations, but usually only a partial second generation in the north. The spotted cucumber beetle hibernates in nearly any kind of shelter, but seems to prefer the bases of plants. Beetle activity begins early in the spring, when the bugs are flying about during the first days of 70° or more of temperature. In the larval stage, the spotted cucumber beetle is known as the southern corn rootworm which does great damage to roots.

#### Damage Done by Beetle

The range of plants attacked by this pest is large, with estimates running as high

as 200 weeds, grasses and cultivated crops. The pest eats large, irregular holes in the foliage of beans and cuts off the growing tips. When the leaves are parted, the adult bugs fly away. Frequently, the stems of plants are girdled by many feeding beetles at or near the surface of the ground, so that the plant is eventually killed. In addition to its harming cucurbits, the adult bug is a constant pest of string and Lima beans, cabbage, tomato, eggplants, beets, asparagus, potatoes and peas.

#### Control of the Cucumber Beetle

Since this pest lays its eggs in fields after the corn is up, there is no way to rid the soil of the larvae. Cultural methods include late planting on land which has been plowed early in the spring or fall and on which vegetation has been kept at a minimum. Rotation of crops has little value in the control of this species. Various insecticides have been named by USDA for control of the beetle, but since much of this application would be made on crops slated for human consumption, older recommendations may have to be revised to avoid the possibility of illegal residues remaining on harvested crops. County agents should be consulted before pesticide programs are adopted for control of this pest.

The illustration of spotted cucumber beetle was furnished by the artist, Marvin Frost, Jr.

Previous "Bug of the Week" features have been reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.



## WESTERN TRENDS

(Continued from page 9)

When firms other than farm supply stores take on stocks of both pesticides and fertilizers, and push their sale.

Yet, the more aggressive dealers are not stood still nor engaged in careful thinking. They realized that these conditions demand extra sales efforts and daring new ideas, so they followed up the trend by building up a suburban trade; setting up custom service through which fertilizers, insecticides and weed killers are applied direct to the field; and by offering up personal service. The latter includes making insect counts, analyzing soils and working with farmers in the field during insect infestations.

How certain stores have used these methods to build a good business, is shown in these cases: In Arizona a store owner saw the drought whittle down his feed sales, while the number of competitors selling agricultural chemicals increased from nine to 40 in two or three years' time.

This man suddenly did an about face. He modernized his store until the outside looked like a Christmas package, departmentalized the merchandise, added garden supplies, a nursery, parakeets and everything for a suburban farmer and gardener. A year's time he had built back all he lost and is now increasing sales every month.

Another dealer in Colorado faced the same problem when "everyone" started selling farm chemicals. He got the applicators and set out to carry merchandise to the field. Now 75% of his booming sales volume comes from applying fertilizer and weed killers to the fields. He gets custom rates for application plus the profit from the sale of his products. An Idaho feed store owner said he could never get started with agricultural chemicals, even though he had a prosperous feed business. He nor anyone on his staff knew anything about them, so farmers traded where they could get advice and help. Finally he hired a young entomologist, pointed to the tiny display of fertilizers and insecticides and said: "Now hold these things up to where they'll amount to something."

The young man did just that. He took to farmers in the field, identified insects for them, took soil samples and held group meetings. Sales started climbing almost at once, and he inched upward every month. He set out trial plots of fertilizers and kept records on production.

Now the farm chemicals pay much more than his salary, and the new people he brought to the store helped increase the sale of feed and feed lines.

Agricultural chemicals seldom sell themselves, like salt or soap or gasoline. Many farmers know little about them, and must depend upon some expert dealer who thoroughly knows the products. The store owner who learns more than what is written on the label had just as well stop peddling something else, for the enterprising competitor may put him out of business.

### CUSTOM RATES

DAYTON, OHIO.—"Custom Rates Charged for the Use of Power Operated Farm Machines" is the title of a new extension publication, EC-100, by A. M. Nichter, agricultural economist at Purdue University. This publication is a compilation of custom rates as reported by nearly 700 Indiana farmers. Included are rates for plowing corn and applying anhydrous ammonia.

## Farm and Garden Supply Sales Show Gain in California

SAN FRANCISCO—Sales of farm and garden supplies are up in California this year over last, including sales of agricultural chemicals. The state board of equalization reports an increase of 6.32% between the first quarter of 1955 and the corresponding three months this year in sales made by farm implement dealers, and a 10.97% gain by general farm and garden supply stores.

Combined sales by these two classes of retail outlets climbed to \$71,295,000 between Jan. 1 and March 31 of 1956 from an estimated \$65,045,000 during the winter quarter of 1955.

Approximately one-fifth of the state's total sales was concentrated in the nine counties comprising the San Francisco Bay Area. These counties accounted for \$14,598,000 of all sales. The Los Angeles region racked up \$9,793,000.

### SOIL BANK

STATE COLLEGE, N.M.—By the July 27 deadline, New Mexico farmers had signed 1,954 soil bank agreements placing nearly 184,000 acres, or about 28% of their allotment areas, into the acreage reserve. Total possible payments on these "banked" acres amounts to nearly \$1,250,000, says John O. Kling, extension economist at New Mexico A&M College.

## Oregon Dealers Set Convention Dates

PORTLAND, ORE.—The 26th annual convention of the Oregon Feed & Seed Dealers Assn. has been scheduled for March 15-16, 1957, in the Multnomah Hotel in Portland.

Russ Hays, Lewis Bldg., Portland 4, is manager of the association.

### Hopper Control

STATE COLLEGE, N.M.—Approximately 450,000 acres of New Mexico rangeland have been sprayed for grasshopper control this year, John J. Durkin, New Mexico A&M extension entomologist, reports. Possibly several thousand more acres will be sprayed before fall.

There are many ways  
to kill insects  
but...



Farmers get better insect control

with **HEPTACHLOR**

### HEPTACHLOR CONTROLS:

#### Forage insects

Alfalfa Weevil  
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Grasshoppers  
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Cutworms  
Armyworms  
Lygus Bugs  
Harvester Ants  
Egyptian Alfalfa Weevil  
Black Vine Weevil  
Plant Bugs  
Leafhoppers  
Clover Root Borer

#### Cotton insects

Cotton Boll Weevil  
Cotton Fleahopper  
Cotton Thrips  
Rapid Plant Bugs  
Tarnished Plant Bugs  
Armyworms  
Cutworms  
Garden Webworms

#### Soil insects

Corn Rootworms  
White Grubs  
Cutworms  
Wireworms  
Seed Corn Maggot  
White Fringed Beetles (Larvae)  
Japanese Beetle (Larvae)  
Flea Beetles (Larvae)  
False Wireworms  
Root Weevil  
European Chafer  
Ants  
Asiatic Garden Beetle (Larvae)  
Root Maggots  
Onion Maggot  
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Strawberry Root Worms  
Sugar Beet Root Maggot  
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Farmers prefer Heptachlor because it controls a wider variety of insects—soil insects, forage insects, cotton insects, and many others. They prefer Heptachlor because it's safe...a residue tolerance for Heptachlor has been established on many crops.

To you, this wide range use and acceptance of Heptachlor formulations means faster turnover of stock and less money in inventories.

A faster growing demand for Heptachlor insecticides is also being built by advertising in your agricultural markets.

Heptachlor is available in many convenient forms and concentrations—wetable powders, emulsifiable concentrates, and granules. For complete information on Heptachlor, and recommendations for its use write to:

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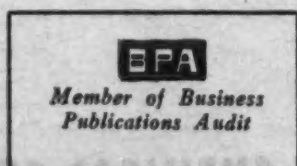
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## FARM SERVICE DATA

### Extension Station Reports

A new chemical control for Canada thistle has shown excellent results in one-year trials by Oregon State College scientists.

William Furtick and David Chilcote, farm crops researchers, obtained almost 100% thistle control on patches sprayed last summer with a special mixture of two pounds of 50% aminotriazole (ATZ) and one pound of 2,4-D amine per acre. Eight pounds per acre of 50% ATZ was the best previous recommendation.

The trial mixture required special formulation of the two chemicals. Mr. Furtick and Mr. Chilcote are now testing mixtures of 2,4-D ester and ATZ to see if comparable results can be obtained without special formulation.

In the meantime, the scientists say farmers can get about the same results with two separate sprays: two pounds of 50% ATZ per acre followed the next day with one pound of 2,4-D.

The researchers caution that ATZ and 2,4-D are not "selective killers" and cannot be used to spray thistle out of crops. They gave good control, however, when applied to thistle stubble after crop harvest. The best time to spray thistle patches is earlier in the summer when thistle is in the bud stage.

Mr. Furtick says the chemical mixture is slow-acting, comparable to straight ATZ, and results may not show for three or four weeks.

The amount of water needed to spray an acre will, of course, vary with the type of spray equipment used. Both high and low-volume sprayers are in common use on Oregon farms. The important thing, say the researchers, is to wet the plants and to get the recommended dosage of chemicals on per acre.

The University of California Agricultural College was wealthier by some \$31,208.00 this June as the result of a large number of gifts granted to the Division of Agricultural Sciences to promote some half a dozen different research projects in the field of agricultural chemicals.

The California Cotton Seed Distributors made two separate donations to attack two different problems related to the raising of cotton: \$5,000 for research on cotton fertilizers, and \$3,500 for a weed control research program.

Crop raiser J. H. Wheeler presented another \$5,000 check to the university for a study on the breeding and propagation of strawberry plants and for research on plant diseases and pests. The Sugar Beet Foundation gave \$4,300 for study of the effects of mineral nutrition and environmental factors on the growth and development of sugar beet plants.

The Grower-Shipper Vegetable Assn. also presented two gifts: the larger for \$5,012 was allocated for the development of improved lettuce varieties with disease resistance in the Salinas valley, and the other for \$4,796.00 for investigations of vegetable diseases particularly in the Salinas-Pajaro area.

Monsanto Chemical Co. gave another \$3,000, adding to a long list of grants, for investigation of insecticidal action of chemical compounds, and the California Avocado Society

made a \$100 donation for a root rot project study in Guatemala.

Thirteen other companies gave the university various quantities of chemicals, both fertilizers, and weed or insect killers, to be used in these or other studies.

★

Fertilization plays an important role in palatability of pasture plants, as well as greatly increasing the yield, according to E. E. Anderson, New Mexico A&M extension dairyman. He says that stimulating pasture plants with extra plant food causes a rapid growth of succulent tender forage which naturally increases the palatability.

In addition to yield and palatability, fertilization may be a valuable aid in maintaining the balance of legumes and grasses. For example, if the grasses are being crowded out, they may be stimulated by the addition of nitrogen since grasses are heavy feeders of nitrogen. Legumes are more productive if fertilized with phosphorus, Mr. Anderson says.

★

A grant of \$15,806.50 to assist in cotton research this year has been received by the University of Arizona's College of Agriculture. The money was given by Arizona Cotton Planting Seed Distributors, a non-profit organization of farmers raising pure cotton planting seed.

"These funds will be utilized by the departments of plant breeding and agronomy," said Harold E. Myers, dean of agriculture, "allocated under direction of Dr. E. H. Pressley, head of the plant breeding department."

The money will be used to pay the salary of a laboratory assistant, to underwrite field work in cotton breeding, and for student labor next winter. It is also for tests of cotton varieties, for insecticides and their application, and for spinning tests of new selections and varieties, according to Dr. Pressley.

★

Another plant disease that has been difficult to control may soon fall before antibiotics, according to a report by a U.S. Department of Agriculture plant pathologist at Oregon State college. P. W. Miller has been testing the value of antibiotic sprays as a control for walnut blight, a common disease of walnuts in Oregon. Results look quite promising, he says.

In 1954 and 1955 field tests, an antibiotic formulation containing 15% streptomycin sulfate and 1.5% terramycin gave good control.

While the antibiotics gave good results, the plant pathologist says the tests still aren't conclusive. The walnut blight disease was light in 1954 and 1955, and he feels the antibiotics need to be tested under severe disease conditions before definite recommendations for their use are made.

In this year's field tests, Mr. Miller is checking the value of a new streptomycin dust, as well as the usual spray materials.

### FIELD DAYS

STATE COLLEGE, N.M. — Dates have been set for two annual field days at New Mexico A&M College. The 16th annual Ranch Day has been scheduled for Oct. 8. The 11th annual Farm Day will follow on Oct. 9.

## Better Selling

Richer Sales Fields for Dealers

## What's Been Happening?

This column, a review of news reported in Crophlife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Forecasts for cotton production in the U.S. for 1956 were down approximately 8% from last year, as the USDA crop reporting board made its forecasts in August. This year's yield was set at 13,552,000 bales, as compared to 14,721,000 bales harvested in 1955. Yields per acre were up, reflecting the effects of growing cotton on the best land, the use of more and higher analysis fertilizers, and other improved cultural practices, it was noted.

Tolerances for the fumigant, ethylene dibromide were proposed by the U.S. Department of Agriculture in order that this material might be employed in the Mediterranean fruit fly eradication program.

Monsanto Chemical Co. announced that it will build a new phosphoric acid unit at the Colorado Fuel and Iron Corp. plant in Pueblo, Colo. In cooperation with CF & I, the resultant phosphoric acid will be used in production of diammonium phosphate to be marketed under CF&I's trade name, "DAP".

Woonsocket Color & Chemical Co., Woonsocket, R.I., approved an expansion program for the firm's Nitro-Form agricultural chemicals division. Expenditures of from a half million to three-quarters of a million were authorized for the project. The Nitro-Form division will be split into a separate corporation for the purpose of sales and future expansion. Future plans call for the basic production of formaldehyde and urea formaldehyde slurries for the fertilizer industry.

Potash deliveries in North America were up about 3%, the American Potash Institute reported. However, a decline in deliveries in the U.S. itself was noted. Potash for agricultural purposes in the continental U.S. amounted to 1,845,943 tons K<sub>2</sub>O, a decrease of less than 3% under last year. Increased tonnages were noted for Canada, Hawaii, and Cuba; with the latter country registering an increase of 200%. Deliveries in Puerto Rico were down 10%, the report said.

The discovery of one Hawaiian Melon Fly in California alerted entomologists in that state to watch carefully for more of this destructive pest. The single specimen, at first tentatively identified by California entomologists as the Hawaiian melon fly, was sent to the Smithsonian Institution in Washington, D.C., where it was identified positively as that pest.

The Great Plains Agricultural Council announced plans to study plant growth and development under varying climatic conditions. Its objectives were described as finding areas with constant climate patterns and studying its influence on specific crops; to classify the areas as to the climatic risk according to specific crops; and to study problems of planning farm organizations under conditions of risks and uncertainties due to climate variabilities.

USDA announced an engineering project to develop radio telephone service to more isolated rural areas. The program was planned by the Department's Rural Electrification Administration and will be carried out in collaboration with private firms under contract with the Department.

Crest Chemical Co., Watertown, S.D., began construction of a \$200,000 fertilizer plant. It will manufacture high analysis grades of granular plant food, according to Marlowe Sharf, president.

The annual fertilizer conference at the University of Kentucky was held Aug. 1, sponsored by the National Plant Food Institute, the Tennessee Valley Authority, and the Kentucky state office of the Agricultural Stabilization and Conservation program. Speakers represented the Institute, TVA and the University of Kentucky in asserting that the fertilizer industry and the U.S. Department of Agriculture's soil bank are acting as strong influences in stabilizing agriculture.

Elko Fertilizer Co. at Elkhorn, Wis. was formed for the manufacture and sale of mixed complete neutral fertilizer solutions and aqua ammonia. Some of the company's products will be mixed with pesticides for control of corn rootworm, according to Nathan J. Eck, Williams Bay, Wis., head of the new firm.

The prospect of corn belt farmers having a considerable amount of "found" money this fall through their participation in the soil bank was discussed by USDA officials early in August. The USDA said that more than \$112 million will be available to farmers before election time in November. The agricultural chemical trade regarded this development as an opportunity to make additional sales in the fall.

The Southwestern Fertilizer Conference at Galveston, Texas July 18-20 heard experts discuss the merits of different forms of fertilizers, and of manufacturing processes.

A triumph in cross-pollination between a wildgrass and wheat, to give the wheat resistance to rust, was announced by the Missouri Agricultural Experiment Station and the U.S. Department of Agriculture. E. R. Sears, plant breeder with the ARS, arrived at the desired objective after crossing and re-crossing different grasses and wheat through five intricate steps.

A fertilizer industry conference held at the University of Illinois on July 26-27 featured speakers who discussed the economics of soil fertility. Sound management practices will increase the need for fertilizers, one speaker declared, while another stated that it is cheaper now to buy nitrogen than it is to grow it through legumes.

The American Potash Institute, Washington, D.C. stated that although final figures on potash deliveries in the U.S. had not been completed, (Crophlife issue of August 6) little change in tonnages from those of last year were expected. Export figures were expected to be up somewhat, to counterbalance an expected slight decline in domestic sales.



# Better Selling

Richer Sales Fields for Dealers

CROPLIFE, August 27, 1956



Doing Business With

## Oscar & Pat



By AL. P. NELSON  
Crolife Special Writer

When Oscar Schoenfeld got back from lunch, it was usually Pat McGillicuddy's turn to leave for noon-day victuals, that is, on days when Pat was not out in the field collecting delinquent accounts, selling fertilizer, attending a chamber of commerce meeting or taking in a farm auction.

Today, when Oscar got back from a cheese lunch at his home, he found a dark-faced little man sitting at a chair next to Pat's desk, talking to him. The little, dark-eyed man was shaking his head from side to side continually as Pat talked. In front of them on Pat's desk were a half dozen pairs of work gloves, some plastic, some canvass, some leather and leather and some all leather.

"No, I will not sell them for 20¢ a pair. I have to have 25. Oi, there should be ten more Irishers like you in town and I would be broke."

"But Izzy," said Pat persuasively. "Think of all the farmers that will come in here just to get a pair of gloves. When they see that sign—'These Gloves Came From Izzy Shapiro's Store' . . . When you need more gloves, or overalls, or work clothes, visit at Izzy's where you are always welcome, lots of them will go over to your place to buy."

"I hope," Izzy said, throwing out his hands deprecatingly. "To think I should let you talk me into such a crazy business deal. All right, I will make it 20¢ a pair, but, oi, the money I will lose."

"No, you won't," Pat placated with a grin, his blue eyes twinkling. "This idea could make your store the Marshall Field's of Belleville, the store everyone knows."

"My Rosa will Marshall Field me I am telling you," Izzy said worriedly as he got to his feet. He picked up the work gloves, all except the yellow pair which Pat held in his hand. He looked at Pat. "McGillicuddy," he said, "don't ever give me heart failure again, phoning me you got a proposition for me that can't wait. I get too excited to be let down like this."

"Quit your kidding, Izzy," Pat said. "You will make more money on this deal maybe than we will."

Izzy shook his head once more and ambled toward the door. "Shoenfeld," he said. "You have to watch that fellow. He's got ideas—oi."

Oscar snorted. "Ach, I know. I have been stepping on his ideas since the first day we opened."

Then when Izzy Shapiro had gone, Oscar turned to Pat. "What is this crazy business about gloves? And what deal are we in on?"

Pat sighed, but his eyes were still bright. "Sit down and relax and listen, Oscar. This idea will boost traffic for us and increase sales."

"That's what you think," Oscar snapped, sitting down like a petulant child. "You think wrong most of the time."

Pat ignored the remark. "Each second Friday for a while, we can offer to give a free pair of good quality gloves to the farmers who come here to cash their milk checks," he said. "We buy the gloves from Izzy Shapiro at rock-bottom prices in return for a sign advertising his store."

Oscar actually paled considerably. "McGillicuddy, have you got all your

senses?" he barked. "Ach, why should we give farmers a pair of gloves to bring their milk checks here? Let them get them cashed at the bank. Does the bank give gloves when they cash milk checks?"

Pat slowly shook his head. "No, they don't, and that is why we offer the free gloves. If you were a farmer, Oscar, and you could cash your milk check—which you get that day—at the bank where you get no free gloves, or at a store across the street where you get a pair of free gloves, where would you go?"

Oscar squirmed at these economics. "How would I know the store didn't have counterfeit money?" he asked. "Ach, if they did I would have a pair of gloves, but then I would lose plenty."

Pat laughed uproariously. "You are too cautious, Oscar, and I think you know it. If I know farmers, they'll come here to get those checks cashed. If they owe us money they'll pay their bills or put a payment on them. Those that don't owe us anything will buy something, the chances are. We'll increase our store traffic, and that should bring us many extra sales."

"Ach, I never heard of such a thing," Oscar spluttered. "Look at all the money we will have to have on hand. I will have to be running to the bank for money all the time, and maybe we will even have to borrow some money to handle this business. And the gloves—they will cost us plenty."

Once more Pat was patient. "If you have to run to the bank, Oscar, remember that you will be running to be of service to a customer. We will be doing just so much more for him than our competitors. The customer wants to be catered to. He wants to be king, and if we can make him feel that way he will buy more from us."

"I do not want him to be a king and us broke," Oscar griped. "That is not what I came into this business for. I got into it, ach, to make some profit. Let the customer worry about himself. And those free gloves. Himmel, how silly."

"The gloves cost us 20¢ a pair," Pat pointed out. "If we get 50 customers in on a Friday to cash their milk checks here, that will cost us \$10. Is it worth that to get 50 farmers in here with lots of cash in their hand?"

"Cash—after we give it to them! Himmel, what a mess this will make of our books. Have you talked to Tillie?"

"No, she isn't back from lunch yet," Pat said, "but she won't complain. She will see the business building value of it."

Oscar felt his head whirling. He was trembling all over from anger, but something cold and calculating within him eyed Pat calmly, as he said, "McGillicuddy, do you want to buy me out?"

There it was, all the anger, the frustration, the irritability of the years of partnership with this Irish-er, who was so different from him, so, so crazy.

"How much?" asked Pat calmly. Oscar figured a moment, although he did not need to. "\$45,000!" he said, then added, "cash!"

This brought a smile to Pat's face. "So that's the kind of price you want, eh? Well, Oscar, if it is then you are hooked with me for awhile yet. I am not that big a sucker. For \$45,000 I can still stand you for some months, and you'll have to stand me, whether you like it or not."

Then Pat turned and said, "Here is Tillie. We promised her we would not fight in her presence. The meeting is adjourned."

## RINGING THE CASH REGISTER

Now Is  
The Time

Attracts  
People

Who Are  
Bad Risks?

With reopening of school not too far off, now is the time for dealers to consider offering a pencil free to every grade school youngster who comes to the store with one or both parents. Imprinting the name, address and telephone number on the pencils will remind youngsters and the parents of the feed store. The offer of imprinted pencils free is bound to bring new prospects into the store as well as regular customers.

"We have tried a number of different attractions to increase our store traffic but none has compared with a parrot which we now have," says Mrs. Curtis Keith, owner of the Central Feed Co., Groves, Texas. "We have cut down our deliveries at least one-fourth because farmers and ranchers want to visit our store, relax a few moments and say hello to the parrot," she says. The parrot is trained to talk freely

and customers bring along their husbands, wives and friends just to see the parrot and hear him talk, Mrs. Keith says. Furthermore, it is one of the most inexpensive sales attractions the store has devised, it is claimed.

A Tennessee appliance dealer has assembled characteristics which may indicate that certain credit customers are insecure risks. Some characteristics of customers who may be bad risks are: They have worked at a number of jobs within the last few years; they are unskilled laborers, who move readily from one occupation to another; they have a record for "slow pay"; and they have purchased a number of items on small deposit arrangements. On his repossessions, the dealer said 60% came on 24-month sales. Some 78% were on sales with 10% down payment or less. And 87% had been home renters, with only 13% home owners or persons in the process of buying a home.

## OVER THE COUNTER

(Continued from page 9)

and in working order, with dates last inspection thereon. 5 points.

### 4. Employees:

Uniforms neat and complete. Ty recommended unless heat is extreme. Employees neatly shaved. 10 points.

### 5. Trucks and equipment:

Truck cabs and hoods clean and waxed. Body and wheels properly painted. Evidence of careful attention shown throughout. Motors and other equipment kept clean. Service equipment in good condition and in designated spot. 10 points.

If your store rates perfect in each category, give yourself 100 points. However, chances are that you'll find the store below the desired standard in one or more of the categories. Try the examination again in a month or two. It will be interesting to note the improvements made when comparing the first and second score sheets. Also, don't forget to let your staff see the results of the scoring because they'll want to take their share of the credit for improving the store.

## Retailers Should Study Percentage of Earnings

Every retailer is anxious to know how his percentage of earnings on sales compares with the store owned by his dealer friend and also earnings on sales of industries on the average.

Percentages vary a great deal which is to be expected. Therefore comparisons can be misleading and unrealistic. A 9% earnings on sales may be applicable to some stores of industries but not realistic for others. Sharp drops, however, may be indicative of something being remiss in an industry.

Russell R. Mueller, managing director, National Retail Hardware Assn., warned members of his association that they ought to be checking into reasons for the sudden dip from 9.95% earnings of sales 10 years ago to the present 2.25% earnings.

Retailers individually and as a group need to know earnings per dollar of sales as exactly as large corporations and many trade associations know it for their own businesses. Earnings per dollar of sales directly affect profits. If earnings are too low then it is necessary to boost gross sales manyfold. Sometimes this would mean such a high and difficult sales goal that it would be impossible to achieve.

When earnings per dollar are too low, some price adjustments are necessary or the firm cannot expect to remain in business long. A solution can sometimes be found in increasing turnover of stock.

Increased volume and short margins are not going to assure the success of a store if expenses get out of hand as they often do today.

The store operator must keep a constant watch on expenses, margins and turnover if he is going to make sure that he is getting an adequate profit per dollar of sales.

## Crops Better

SAN FRANCISCO—Hay and grain crops in northern Nevada are giving much better yield this summer than during 1955, according to a report received by the California Wood Growers Assn. Better supplies of irrigation water are mainly responsible for the improved prospects, said W. P. Wing, secretary of the association. However, in southern Nevada, crops have been short because of the drought condition and heavy infestation of the alfalfa aphid in some sections.



## PLANT DISEASE, INSECT NOTES

(Continued from page 5)

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ough there is considerable varia-  
in development from field to  
depending on when the first  
of hay was taken off.

Marginal damage to truck crops,  
soybean and corn is severe in  
alfalfa. Third crop alfalfa;  
alfalfa, sweet clover and red clover  
for seed is sustaining consider-  
able damage where populations ex-  
ceed 15 grasshoppers per square  
yard. There are thousands of fields  
in this category.

Successive warm days and nights  
have accelerated corn borer develop-  
ment. It appears now that a very  
high percentage of the first genera-  
tion will produce a second brood.  
With emergence and egg deposition  
from the previous week, increased  
egg counts up to 50 per  
plant have already been noted.  
Egg counts now (Aug. 17) range from  
10 to 60% in the three southern dis-  
tricts. It is anticipated now that  
the moth flight will occur in the  
period from Aug. 23 to 28.

### Vegetable Insects Active in Delaware

NEWARK, DEL.—In most sections  
of Delaware, except the Bridgeville  
area, weather has continued favor-  
able for the spread of downy mildew  
on lima beans. Green cloverworm is  
feeding heavily at Smyrna, Frederica  
and Lincoln. Plant bugs and potato  
aphids are active on Primehook  
creek.

Small borers are increasing in ears  
of mid-season sweet corn and are at-  
tacking whorls of late corn. Ear-  
worm is about normal in field corn  
but less troublesome in sweet corn.  
The armyworm is injurious in sev-  
eral localities, and armyworm is  
common in late sweet corn near  
Georgetown.—J. W. Heuberger.

### Alfalfa Aphid On Move in Colorado

FORT COLLINS, COL.—Infesta-  
tions of the spotted alfalfa aphid  
are well distributed through Mesa  
County, according to the weekly re-  
port of the Colorado Insect Detection  
Committee.

Dr. L. B. Daniels, committee chair-  
man and chief entomologist for the  
Colorado Agricultural Experiment  
Station, also advised farmers in Del-  
aware and Montrose counties to be on the  
lookout for the aphid. Reports from  
heavily infested areas show varying  
biological controls and cutting appar-  
ently are having some effect, Dr.  
Daniels said.

Adult populations of the tuber flea  
beetle, first reported last week, are  
still on the increase in late plantings  
of potatoes.

A particularly heavy infestation  
of two-spotted spider mites has  
been observed in corn plantings in  
southeastern Colorado counties,  
Dr. Daniels said. This pest has  
also been reported in corn areas  
of the eastern, western and south-  
western counties.

In Yuma County and adjacent  
areas the corn leaf aphid is causing  
damage to sorghums. In Otero  
County high populations of this in-  
sect are feeding on corn tassels, and  
heavy honey dew deposits have been  
observed.

In the foothills of Larimer County,  
eggs and larvae of the fall webworm  
are appearing in noticeable numbers  
on choke cherry, cottonwood and  
other plants.

Otero County reports light trap  
collections of the tomato hornworm,  
white line sphinx moths, wheat head  
worm and the aster leafhopper.  
Field County has light infestations of  
the aster leafhopper and white line  
sphinx moths.

### Boll Weevil Count Increases in Tennessee

KNOXVILLE—Boll Weevil migra-  
tion is taking place throughout the  
southern counties of Tennessee. In-  
festations have increased in fields  
that were only lightly infested be-  
fore. Lack of squares have resulted  
in high square counts and weevils  
are doing some boll damage in heav-  
ily infested fields. Dry weather is  
continuing to kill many of the larvae  
in the fallen squares but adults are  
very active.

Square counts made in fields  
known to be infested averaged 56%  
this week (Aug. 20) and was 40%  
at this time last week. At this  
time last year, the squares count  
averaged only 17%.

Boll worm is increasing in weevil  
infested areas. Control is needed in  
many fields.

Heavy spotted red spider infesta-  
tions are in fields all over the area  
and appear to be increasing. Aphids  
are still light in most fields where  
weevil control has been used.

Note: Survey this week included  
Gibson, Crockett, Dyer and Obion  
counties with only light traces of boll  
worm and spider mites being found.  
—R. P. Mullett.

### MICHIGAN FIELD DAY

EAST LANSING, MICH.—Crops  
and soils research on fall crops and  
their production is the feature attrac-  
tion for this year's Crops-Soils Field  
Day at Michigan State University,  
Sept. 5. Of special interest this year  
are research plots on various phases  
of corn production. Included are ex-  
periments on hybrid comparisons,  
rate of planting, fertilizer placement  
and rotations.

### Dr. Arthur Weber Head Of Great Plains Council

FORT COLLINS, COLO.—Dr. Ar-  
thur D. Weber, dean of agriculture,  
Kansas State College, was elected  
general chairman of the Great Plains  
Agricultural Council at the end of  
the council's meeting at Fort Collins,  
Colo.

The council is made up of agricul-  
tural leaders in the 10 Great Plains  
states of North and South Dakota,  
Nebraska, Kansas, Oklahoma, Texas,  
Montana, Wyoming, Colorado and  
New Mexico.

Dr. Weber also is chairman of a  
north-central regional committee  
composed of deans and directors of  
agriculture in 13 north-central states.

The Great Plains Council recom-  
mended that a controlled-climate  
laboratory be created to study plant  
growth and development under vary-  
ing climatic conditions and that the  
national laboratory be located in the  
10-state area.

Watch For These 3 Hard-Selling Phillips 66 Ads...

# TO HELP YOU GET MORE FALL BUSINESS!

**S-T-R-E-T-C-H  
GREEN FEED**

Apply Phillips 66 Ammonium Nitrate  
on pastures this fall for increased  
beef and milk gains at lower cost!

Following good pasture man-  
agement practices, apply Phillips  
66 Ammonium Nitrate on your  
pastures this fall. You'll get extra weeks of grass  
this fall and next spring.  
Grasses will be richer in protein.  
Your biggest reward will be  
faster and bigger beef and milk  
gains at a lower production cost.

per pound—because grass for-  
age is your cheapest source of  
food.

If your soil tests show that  
your pastures need fertilizing,  
see your fertilizer dealer right  
away. For the nitrogen you'll  
need for lush, protein-rich grass,  
be sure to specify Phillips 66  
Ammonium Nitrate, the 33.5%  
nitrogen fertilizer.

Benefits of nitrogen on  
fall-sown grasses:

- Higher yields, for increased  
profits per acre.
- Extra weeks of pasture.  
Fall and spring  
grazing periods longer  
and better.

Phillips 66  
AMMONIUM  
NITRATE  
Available in 50 and 100 lb.  
polyethylene lined bags.  
PHILLIPS CHEMICAL COMPANY  
A Subsidiary of Phillips Petroleum Company  
Bartlesville, Oklahoma

PHILLIPS 66 FALL ADVERTISING WILL  
REACH 4,625,000 FARM READERS

Fall business is plus business—and Phillips 66 is out to  
help you get more of this end-of-the-year profit. Con-  
vincing ads like these demonstrate to your best pros-  
pects that they can profit by fall application of fertilizer.

Look for the message in these ads that sells balanced  
fertilization—and mixed fertilizers. Another Phillips  
66 extra to make your selling job more profitable.

**PHILLIPS CHEMICAL COMPANY**  
A Subsidiary of Phillips Petroleum Company, Bartlesville, Oklahoma

#### Offices in:

AMARILLO, TEX.—First Nat'l Bank Bldg.  
ATLANTA, GA.—1428 West Peachtree Street  
BARTLESVILLE, OKLA.—Adams Bldg.  
CHICAGO, ILL.—7 South Dearborn St.  
DENVER, COLO.—1375 Kearney Ave.  
DES MOINES, IOWA—6th Floor, Hubbell Bldg.

HOUSTON, TEX.—1020 E. Holcombe Blvd.  
INDIANAPOLIS, IND.—1112 N. Pennsylvania St.  
KANSAS CITY, MO.—500 West 39th St.  
MINNEAPOLIS, MINN.—212 Sixth St. South  
NEW YORK, N. Y.—80 Broadway  
OMAHA, NEB.—6th Floor, WOW Building  
PASADENA, CALIF.—330 Security Bldg.

**Bank Nitrogen  
This Fall!**

Get crop dividends next year—plow down  
Phillips 66 Ammonium Nitrate this fall!

Here's why plow down Phillips  
66 Ammonium Nitrate this fall:  
It can be one of the most profitable  
investments in your business of  
farming!

First, you'll get more nutrients  
in spring by plowing in nitrogen  
and phosphorus, which are  
essential for healthy growth.  
Second, you'll get more  
nitrogen in the soil, so you can  
plow it in the spring and get  
more profit per acre next year.  
See, bank nitrogen this fall for  
your fertilizer dealer right away  
for the nitrogen you require for  
fall plow down. Be sure to specify  
Phillips 66 Ammonium Nitrate,  
the 33.5% nitrogen fertilizer.

Then can draw on the subsoil  
moisture, making crops more re-  
sistant to temporary drought.  
Another big benefit: plowing  
down nitrogen in the fall, you get  
the big spring work load  
out of the way.

So, bank nitrogen this fall for  
more profit per acre next year. See  
your fertilizer dealer right away  
for the nitrogen you require for  
fall plow down. Be sure to specify  
Phillips 66 Ammonium Nitrate,  
the 33.5% nitrogen fertilizer.

### "BONUS" GRAZING

Now fall application of Phillips 66 Ammonium Nitrate  
can stretch small grain pastures for extra profit!

There's a big bonus in applying  
nitrogen in the fall to your small  
grains. The young plants will re-  
spond with hearty and vigorous  
growth, so that you can pasture  
your animals earlier and longer.

This helps to cut dry feed bills.  
And, because the nitrogen in-  
creases protein content in the  
plants, you will get faster and  
bigger beef and milk gains—at a  
lower production cost per pound.

The increase in profit per acre  
from your harvested grain  
big reason for applying nitrogen  
in the fall. But it will also pay you  
to think about the "bonus" gra-  
zing you can get by putting down  
plenty of nitrogen on your fall-  
sown grains.

Soil tests show that your  
small grain land needs fertilizing.  
See your fertilizer dealer right  
away. For the nitrogen you'll  
need for a profit per acre, be  
sure to specify Phillips 66  
Ammonium Nitrate, the 33.5%  
nitrogen fertilizer.

#### Benefits of nitrogen fall-applied on pastures:

- Increased protein in green  
for maximum milk.
- Extra weeks of pasture.  
Fall and spring  
grazing periods longer  
and better.
- Nitrogen carry-over in  
grass in winter.

Phillips 66  
AMMONIUM  
NITRATE  
Available in 50 and 100 lb.  
polyethylene lined bags.  
PHILLIPS CHEMICAL COMPANY  
A Subsidiary of Phillips Petroleum Company  
Bartlesville, Oklahoma

**AUG.  
SEPT.  
OCT.**

A companion high nitrogen  
fertilizer for your quality  
mixed goods.

PHILLIPS 66  
AMMONIUM  
NITRATE  
FERTILIZER  
Available in 50 and 100 lb.  
polyethylene lined bags.  
PHILLIPS CHEMICAL COMPANY  
A Subsidiary of Phillips Petroleum Company  
Bartlesville, Oklahoma

**NITROGEN  
33.5%**

RALEIGH, N. C.—804 St. Mary's St.  
SALT LAKE CITY, UTAH—68 South Main  
SPOKANE, WASH.—521 E. Sprague  
ST. LOUIS, MO.—4251 Lindell Blvd.  
TAMPA, FLA.—3737 Neptune St.  
TULSA, OKLA.—1708 Ullico Square  
WICHITA, KAN.—501 KFH Building





## WORLD REPORT

By **GEORGE E. SWARBRECK**  
Croplife Canadian and Overseas Editor

A new railway line, linking Tel-Aviv to Beersheba, the capital of Israel's sparsely settled Negev wastelands in the south, has recently been opened for traffic.

The main purpose of the line is to carry Negev-mined phosphates and Dead Sea potash north to the chemical fertilizer plant in Haifa, and to speed up the development of the hitherto largely inaccessible and unexplored Negev desert. The fertilizer industry is helping that development. It is estimated that in 1956 phosphate production will total 150,000 tons; two thirds will be used on the domestic market and the remainder exported. All this phosphate will go to Haifa over the new line from Beersheba.

Potash production in 1956 is assessed at 60,000 tons and this also will go by rail to Haifa after being transported by truck from Sodom on the Dead Sea.

Beersheba is developing rapidly as an industrial center and a pesticide industry is one of several in the chemical field.

### New Zealand Project

Plans are reported to be well developed for the establishment for a farmer-owned fertilizer works to be located at the deep-water port of Bluff in southern New Zealand. The project has government support and the capital requirement has been assessed at \$4,200,000. However, it will be at least three years before the new plant is in operation.

Because of this development, plans for the establishment of a new fertilizer factory by two privately-owned companies, already prominent in the New Zealand trade, have been abandoned.

### Potash From Cement

Three Polish research men have reported on preliminary experiments aimed at determining whether it is possible to use as a fertilizer cement dust from electro-filters, containing about 6% K<sub>2</sub>O.

The cement dust, the report says, has proved a good source of potassium for ryegrass and sunflower; additionally, the presence of lime, silica and micro-elements favorably influences the development of other crops. It is claimed that the presence of lime makes it possible to regard cement dust as a potassium-lime fertilizer. However, the suggestion has been made that, because of the low potassium content, the dust ought to be processed in order to obtain a more concentrated product with greater fertilizing properties.

### Brazilian Proposal

The formation of a new company, Industrias Químicas Reunidas Bek, S.A., has been announced in Sao Paulo, Brazil. Its purposes is to expand the work of Productos Beko, Ltda., a manufacturer of insecticides and related products.

Plans for the new factor originally called for an investment of \$411,000. However, the sponsors say that only \$200,000 is required because sales in the past six months have shown an upward trend. Attempts are being made to raise the capital in the U.S. The money will be used to construct a new factory and to purchase the machinery and equipment necessary to expand production.

### Canadian Plant

Trade observers say that a decision is expected before the end of the year concerning the plans of North American Cyanamid, Ltd., the Canadian firm, for the erection of an anhydrous ammonia plant at Hamilton, Ont. The cost has been estimated at between \$5 and \$6 million.

The proposal is to use hydrogen and nitrogen waste by-products of

the Dominion Foundries & Steel, Ltd. plant at Hamilton. Market surveys have been made and the outlook for business is said to be favorable. Dofasco has signed an agreement with North American Cyanamid to enable investigations to be made into costs and other factors.

The proposed ammonia plant would be sited on 10 acres adjacent to Dofasco's blast furnaces and coke ovens. The company produces nitrogen from its oxygen producing installations which are part of a new steel making process. The hydrogen is contained in the coke oven gases.

### Briefs . . .

The government of Ceylon intends to establish a fertilizer works "as soon as possible." The project stems from the new spirit of nationalism evident in the country and is indicative of the desire of the recently elected government to encourage local industries and to cutback imports.

Though the profits of Canadian Industries, Ltd. show an increase for the six months ended June 30, 1956, with sales showing a corresponding upswing, the demand for fertilizers showed a reduction. The ammonia plant now under construction at Millhaven will be in operation before the end of the year, officials report.

Plans for increasing the capacity of the Estreja works, to enable it to increase the annual production of sulfate of ammonia from the present level of 25,000 tons to 70,000 tons, have been approved by the Portuguese government. The government intends to invest in the project and the new installations are expected to be ready by 1958.

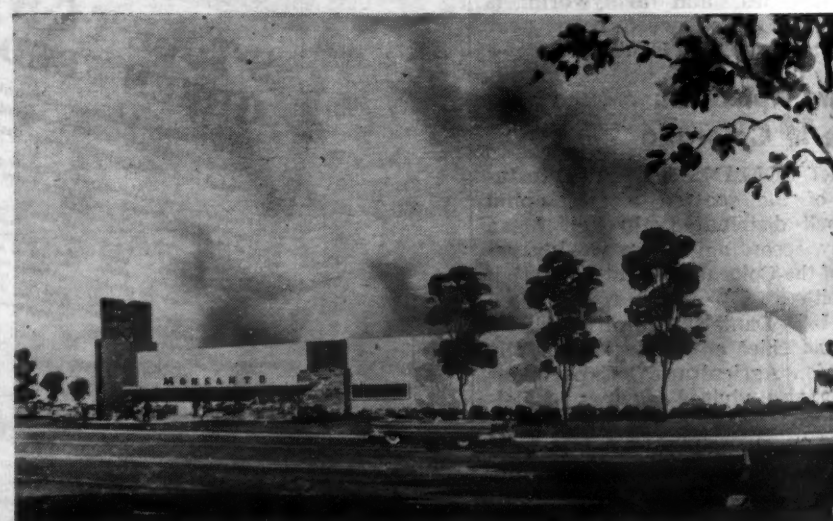
Inquiries are being made into the possibility of establishing another new superphosphate fertilizer works at Wellington, New Zealand. The government's agricultural department has made a survey at the request of Federated Farmers, Inc. Wellington has a deep water harbor and all modern facilities for importing sulfur and raw phosphates.

### COTTON BULLETIN

COLLEGE STATION, TEXAS—A new Texas Agricultural Experiment Station publication, Cotton Production on the Texas High Plains, is now available from the agricultural information office, College Station, Texas. It was prepared by the staff of the Lubbock substation headed by Superintendent D. L. Jones and Dr. H. C. Lane of the department of plant physiology and pathology, College Station. Such items as seedbed preparation, planting, cultivation, irrigation, fertilization, insects, diseases, varieties, defoliation, harvesting and field storage of cotton are discussed. The authors point out a successful cotton program for the area is through lower cost of production.



**AT OHIO FIELD DAY**—Nitrogen application equipment was demonstrated and results of fertility experiments were reported at the recent Ohio Nitrogen Field Day and Equipment Demonstration at Columbus. Above is part of the scene where nearly 20 manufacturers demonstrated their machines before some 350 field day visitors. Below, these visitors view soybean variety test plots on the University farms. Beans are growing on land of high fertility. A story of the meeting appears on page 1 of the Aug. 28 issue of Croplife.



**MONSANTO OFFICE**—Architects sketch shows Monsanto Chemical Co.'s new Los Angeles district office and warehouse. The building, now nearing completion, will be occupied this month. It has about 60,000 square feet of space. A large red 16' x 22' block "M", the company's trademark, is mounted on a corner of the building. The structure will serve as a distribution center for all Monsanto marketing activities in the Southern California area. It is located at 6670 East Flotilla St. in the Vail Field area of the Central Manufacturing District.

### Importance of Soil Tests Stressed At Alabama Meeting

**BIRMINGHAM, ALA.**—Soil testing is leading to many basic changes in Alabama's fertilization program, Dr. Clarence M. Wilson, head of the state soil testing laboratory at Auburn, told county agents and committeemen of the State Agricultural Stabilization and Conservation Program at their annual meeting here.

A summary of the results of samples tested since the establishment of the state laboratory shows that Alabama soils generally are now better supplied with phosphorus than with potash, and the majority of the soils in the state are moderately to strongly acid, he said.

Of the samples tested, 42% showed

high phosphorus content in contrast to only 9% that showed high potash, Dr. Wilson reported. Fifty-eight percent of the samples was medium to low in phosphorus, whereas 91% was medium to low in potash content.

Only three basic fertilizer ratios are needed for all crop and soil conditions in Alabama, Dr. Wilson said. Seventy-five percent of the fertilizers should be even in phosphate-potash content, 17% low in phosphate and high in potash, and 8% high in phosphorus and low in potash, he stated.

"A majority of the farmers in Alabama are not using the correct fertilizer ratio to balance the soil need," Dr. Wilson said. "To correct this situation we must do everything possible to get people to think in terms of plant food rather than pounds of fertilizer, and to utilize soil testing as a means of determining the kind and amount of fertilizer needed."

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# More Information Needed on Fertilizer Sales by Grades, Counties and Season of Use

## Editor's Note

This article is based on a talk presented recently at Pennsylvania State University before a Fertilizer Manufacturers and Dealers Conference, by Dr. Arthur M. Smith, agricultural director, plant food division, Olin Mathieson Chemical Corp., Baltimore. Although most of the statistics quoted and much of the information contained are directed to the fertilizer industry in Pennsylvania, a considerable number of the points made by Dr. Smith are of interest to the entire industry and applicable to conditions in other states.

Pennsylvania farmers in the fertilizer year ended June 30, 1955, used 714,618 tons of fertilizer; but where, on what crops, in what counties, at what rates per acre?

For this 714,618 tons they paid approximately \$33½ million. These figures are up 6½% from the previous year's 670,847 tons purchased for about \$31½ million.

It is pretty well established, and generally recognized that, except for seasonal weather hazards, insect pests, plant diseases, and occasional poor management of field operations, including times, methods and rates of applying fertilizers, farmers in Pennsylvania, as in other states, average several dollars return in the value of crop increases for each dollar invested in the fertilizers they use.

The Pennsylvania State University, Experiment Station and Extension Service ranks high in its service to farmers; in educational standards, in balance between fundamental and applied research, and in its extension organizations and methods of taking the information to the farms and helping apply it. The farm crops departments, agronomy and horticulture, of this Penn State are authorized by law and financed by federal and state tax money to investigate, observe and recommend to the farmers of Pennsylvania what commercial plant foods they need and can use profitably. They have done and are doing a good job. They are the fountainhead and source of the information on which our sales programs should be based. They are the advocates of sound practices and adequate use of plant foods; of the economic and effective use of plant foods.

Then results show that even under present economic conditions the potential market for plant foods in Pennsylvania has not been reached. That many farmers are not using half as much plant food per acre as the results of careful experiments have proved would be profitable; that too many farmers are not using plant foods in the right proportions or ratios of nitrogen to phosphoric acid to potash, or at the right time or correctly placed in the soil in relation to the seed. They search, they search again, they experiment, they teach, they demonstrate and they preach; but they have no way of knowing, except with a relatively few individual farmers who they can contact personally, even on a county basis how many farmers are following their recommendations as to kind or amount of fertilizer used. Without this information how can they hope to pin it down to crops or types of farms?

The Agronomy and Horticulture Departments of Penn State cannot

serve the farmers of Pennsylvania, your customers, to best advantage if they are denied the one practical means of checking up and finding out to what extent their recommendations are being followed. It is not enough to show in annual state tonnage figures whether the recommended grades and ratios are making progress or are not making progress. Soil samples are not taken, soil samples are not tested on a state total or average basis; they are taken and tested on a local basis in each of the 67 counties; and that is how fertilizer is sold, on a local basis.

There are seven counties, each of which buys over a million dollars worth of fertilizer a year, and the next three miss it by only a few thousand dollars. What the men on this campus, and the county agents and vo-ag teachers need to know is what progress is being made in those counties and in each of the other 57 counties; so they can help those farmers to use fertilizers more effectively.

Why should a state have fertilizer statistics by counties and by seasons of the year, spring and fall? Who will benefit most by it? Here are some areas where such information would be advantageous:

1. To benefit farmers by helping the research, extension and educational forces do a better job. To give them a means of knowing what is being used where, and what changes result from year to year as a result of their recommendations based on research and soil tests.
2. To enable farmers and farm leaders to see what other farmers in their counties are using, and to give them statistical information on which to base their appeal for improved fertilizer practices.
3. To shed more light on the fertilizer program in each county.
4. To stimulate the fertilizer industry to get behind the college, station, and extension recommendations in each county.
5. To help keep Pennsylvania farms and farmers among the leaders in the effective use of plant foods.

Who will benefit? Certainly the farmers will benefit. The research and extension people will benefit; and every fertilizer supplier will be able to do a better and more intelligent job and give better service.

Is it difficult to accomplish? No. It is no hardship on the manufacturer to send the state control officials once or twice a month a copy of each invoice showing consignee, destination, quantity and grade shipped. It would require one additional clerk in the state Department of Agriculture to tabulate the data for semi-annual publication.

How do other states report tonnage sold? Twelve states are now reporting tons of each fertilizer grade and material by counties. They are: Arizona, Florida, Kansas, Kentucky, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

As to frequency of reporting fertilizer statistics a review of the state reports shows:

Monthly report .....	1 state
Quarterly report .....	3 states
Semi-annual report ....	23 states
Annual report .....	20 states
No report at all .....	1 state

Total ..... 48 states

The state of Pennsylvania and its farmers belong among the leaders in this as in every good movement

to benefit agriculture. If this matter is properly presented and explained by the officials of the state department of agriculture, by the university extension men interested in crop nutrition and soil fertility, and by the representatives of fertilizer manufacturers located in and doing business in Pennsylvania, it could become one of the strongest factors in improving fertilizer practice and the effective use of commercial plant foods.

## Gloomicides

As Grandma Jones approached the century mark, her friends made plans for a gala celebration. They asked what she wanted for a present, and promised to make her wish come true, no matter what it was. But there was nothing Grandma wanted—except to sit.

"How about a ride in an airplane," suggested one relative. "I could arrange the flight."

"I ain't a-goin' to ride in no flyin' machine," said the determined old lady who had crossed the plains in a covered wagon. "I'll just sit here and watch the television, like the Lord intended I should."

★

At an agent's booking office, a magician was trying to sell his act. "I've got the greatest act in the world," he declared. "I pull 200 lighted cigars from nowhere, puff on each one of them and then swallow the entire 200." The amazed agent gasped, "You swallow 200 lighted cigars?" "How do you manage that?" The magician smiled blandly. "Very simple," he replied, "I have connections in Cuba and get 'em wholesale."

★

"Your eyes," thrilled the ardent swain. "They're beautiful. I see dew in them."

"Take it easy, bub," drawled his girl. "That's ain't dew. That's don't."

★

The busy executive asked his secretary where his pencil was.

"It's behind your ear" she replied.

"Come, come!" snapped the busy executive, "I'm a busy man. Which ear?"

★

"Dad, why did you sign my report card with an X instead of your name?"

"I don't want your teacher to think that anyone with your grades could possibly have a father who can read or write."

★

Many a motorist has lost control of his car because of one mistake—teaching his teen-age youngster to drive.

★

"What do you think of our little college town?" asked the student.

"It certainly is unique," answered the visitor.

"What do you mean by 'unique'?" Replied the visitor: "It's from the Latin 'unus' meaning one and 'equus' meaning horse."

★

The father played possum while his youngsters tried their best to rouse him from a Sunday afternoon nap to take them for a promised walk. Finally, his 5-year-old daughter pried open one of his eye-lids, peered carefully, then reported: "He's still in there."

★

And then there was the married man who came home late, took off his shoes, pulled out his key and wondered what he was letting himself in for.



F. T. Nielsson

**APPOINTMENT**—F. T. Nielsson has been appointed to the production staff of International Minerals & Chemical Corp.'s plant food division as development section supervisor, according to Maurice H. Lockwood, vice president in charge of the division. Mr. Nielsson will have responsibility for directing the plant food division's process development program, reporting to Raymond W. Keller, production staff manager. In addition to designing pilot plant equipment, he will cooperate in the design of plant scale processing units and will act as consultant on processing problems to the plant superintendents and area managers. His experience in plant food process development has included posts as technical director for F. S. Royster Guano Co. and project leader on fertilizer development for the Tennessee Valley Authority's division of chemical development. He has a degree of bachelor of science in chemical engineering, magna cum laude, from Syracuse University. He has published several papers on fertilizer processes and has two patents issued in his name.

## Oil Improves Fertilizer, Wisconsin Tests Show

MADISON, WIS. — Based on both greenhouse and field tests with oats, corn and tobacco at Wisconsin's College of Agriculture, the addition of a little oil to fertilizers makes them less corrosive, less likely to cake in storage and less dusty to handle.

In tests last year the Wisconsin researchers also found that the addition of a little oil is safe from the standpoint of plant growth and has no adverse effect on yields. The Wisconsin scientists say they expect no harmful oil build-up in the soil because soil microorganisms break down the oil and prevent any accumulations.

## Weed Day

BROOKINGS, S.D. — The results of various methods of controlling Russian Knapweed will be observed and discussed at the second Weed Control Field Day to be held at the South Dakota State College Research farm west of Conde Aug. 30. Observers will take a look at a three-year experiment using 2,4-D and bromegrass for knapweed control. In some plots this combination has eliminated as much as 90% of the weed infestations. Another demonstration will be studied showing the importance of spraying and cultivating weeds in the fall. Since the experiment began three years ago, the agronomists have had a 90% reduction of Russian Knapweed and raised a crop each year. A third experimental trial will reveal the effectiveness of six or seven soil sterilants for eliminating patches of Russian Knapweed and other weeds.



## RUSSELL COLEMAN

(Continued from page 1)

should not overlook the sales potential of the vegetable industry which annually consumes about 10% of the plant food industry nutrients.

Cotton consumes about 10% of fertilizer production, but he noted that the cotton producers are consuming fertilizer at a sharp level below the recommended practices of impartial college economists.

Dr. Coleman said that if the cotton industry were to step up its consumption of plant foods to the recommended levels of the college economists, the drop in cotton acreage under any soil bank operation would be more than offset.

In the corn economy Dr. Coleman agreed in response to Croplife questioning that use of plant foods was spotty as to recommended use even in the Corn Belt states where yields per acre were high.

According to present USDA soil bank plans there might be a 15% cutback in corn acreage in the commercial Corn Belt next year. When asked for an assessment of this condition on the sale of plant foods for corn farmers in the next crop year, Dr. Coleman declared that if the corn farmers went up to the recommended utilization of plant foods for that crop the sales of fertilizer would expand.

Dr. Coleman emphasized that he was not making any forecast of what may happen. He urged that attention be given to "opportunity for the industry" to develop and not that here was a pear ready for the picking.

To return to the corn situation it should be noted that most officials of USDA and in industry comment that the use of plant foods farm-by-farm is spotty. Next door neighbors with relatively the same type land in big corn states like Iowa and Illinois come up with widely different yields per acre largely because some farmers have not been convinced that the modern practices are profitable.

This condition emphasizes the point that Dr. Coleman makes that this coming year is "one of opportunity" for the plant food industry and that in his comments to Croplife he is not making any forecast of a pleasantly profitable year.

When pressed on the subject of pasture Dr. Coleman indicated confidence in the farmer activity in that area as he took land out of field crop cultivation and put it back into pasture and grasses.

In this respect Dr. Coleman is confirming for the plant food industry respected opinions of such USDA land use economists as Dr. Sherman Johnson of USDA. He has persistently contended that as much as 30 to 40 million acres of some crop land can be more profitably used for pasture and grazing and livestock production than in field crops which land does not lend itself to modern mechanized farming.

When asked about the impact of the expanded agricultural conservation program with its addition of \$350 million for this crop year, Dr. Coleman asserted that such additional funds could no more than encourage good constructive farming practices. This ordinarily would mean liming and the use of plant food nutrients with the federal government paying the cost of rebuilding and restoring depleted soils with the only cost to the farmer of actual application of the materials.

In recent statistical history plant food sales in the pasture and cover crop industry has amounted to about 8 to 10% of the industry's total sales. Dr. Coleman declined to comment on potential

expansion in this area but he admitted that the opportunity was there and that it probably accelerated by the soil bank program.

This interview with Dr. Coleman wound up on an impressive note. He was asked if he felt that, after the soil bank cut back acreage on basic farm crops, the plant food industry could show a net gain in sales next year. He suggested that if the indicated cut back in basic crop acreage was as much as USDA wanted it might mean a drop in plant food sales by 3% from last year.

Unwilling however to accept that partial answer to the question the Croplife reporter asked him what he felt might be the 1957 crop year sales result if the industry seized the opportunity he saw in the future. Dr. Coleman clearly indicated that he saw a net gain of 5% in plant food industry sales for the new crop year notwithstanding all the sad omens that are now on the surface.

Here is how the hard cash outlook adds up.

The soil bank can cut back the sales potential through taking basic commodities out of production by between 3 and 5%.

On the other hand the Congress has granted an extremely liberal condition for the Agriculture Conservation Program through an allotment of an additional \$350 million for the coming crop year.

In addition in the conservation reserve program of the soil bank it appears that there will be additional money for those conservation purposes.

Those funds—ACP and acreage conservation reserve are for conservation practices only and in the case of the soil bank they do not include the rental for land put into that phase of the soil bank program.

In total these programs—including the old ACP allocation—will amount to not less than \$600 million in the farm belt this year before the soil bank program activities are included.

The loss of plant food industry business as the soil bank reduces acreage in the field of the basic commodities—except in the case of tobacco—will be relatively small—if the plant food industry takes its case to the farmers through its distributors and their salesmen.

When confronted with those statistics, Dr. Coleman agreed that they sounded solid—he went on to agree that if the industry grasped its evident opportunities that it would come out on balance in sales over this past year. When asked if he would fix a 5% increase in sales volume—he expressed the feeling that it was a good figure.

### Wisconsin Firm To Add Liquid Fertilizer Plant

ELKHORN, WIS.—Nathan J. Eck, president of the Elkhorn Chemical Co. here, has contracted with the J. C. Carlisle Corp., Denver, to engineer and construct a liquid fertilizer plant.

J. C. Carlisle said that the plant would be the firm's model 7891 and would consist of an aqua ammonia converter and reactor circuit capable of producing about 20 tons an hour of complete liquid fertilizer.

The Elkhorn firm, which has been in business about 9 years, will service farmers in an area near the new installation from the plant. In outlying territories a program is being set up for the company's distributors.

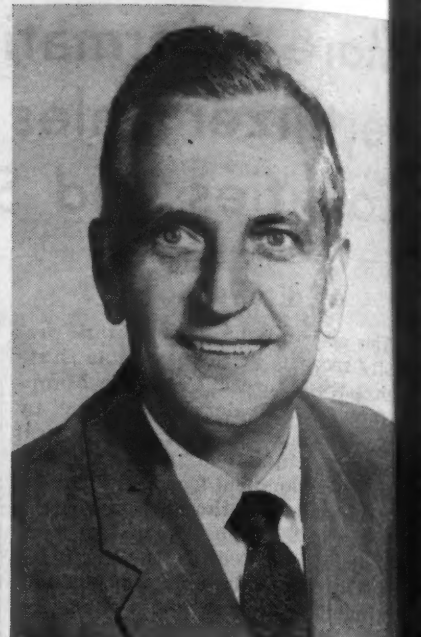


Clark Miller

### Thompson-Hayward Names Managers at Houston, San Antonio

KANSAS CITY—Two new manager appointments for Texas branches of Thompson-Hayward Chemical Co. have been announced by Robert S. Thompson, company president, involving the offices in Houston and San Antonio. Thompson-Hayward has other Texas branches in Lubbock, Ft. Worth and Dallas.

Clark Miller, who for the past nine



Gene Gray

years has managed the San Antonio branch, becomes the new manager of the Houston office. Mr. Miller has been with Thompson-Hayward for 21 years.

Gene Gray succeeds Mr. Miller as manager of the San Antonio branch coming to his new Texas position with a background of 11 years' experience as sales representative of the company's Kansas City, Mo. home office.

Thompson-Hayward Chemical Co. has branches in 19 cities from the Great Lakes to the Gulf and from Denver to Memphis. Branches include both offices and warehouses.

### Disease Damaging Minnesota Alfalfa

ST. PAUL—Minnesota alfalfa and clover fields were damaged more than usual by plant diseases this summer. One of the main reasons was unseasonably wet weather since early July, says A. H. Ellingboe, plant pathologist at the University of Minnesota. High moisture speeds up growth of all plant disease organisms.

One of the most serious diseases on alfalfa this year is brown leaf spot. Where this disease hits, the leaves get round, brown spots and later fall off, especially during haying. In many state fields this summer, Mr. Ellingboe found that brown leaf spot resulted in alfalfa that had no leaves on the bottom 6-12 inches of the plant.

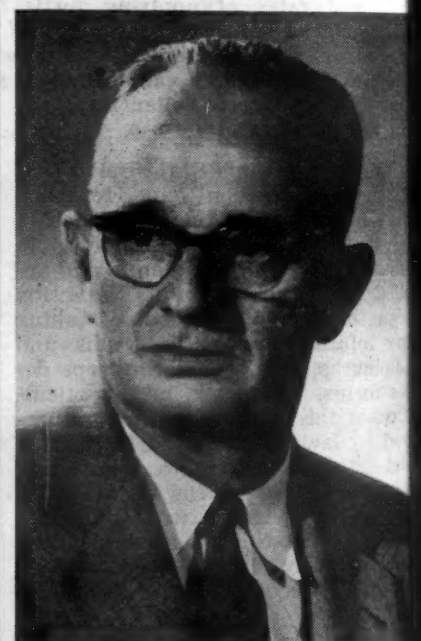
Black stem disease has caused serious damage in a number of alfalfa fields. That disease is especially damaging on crops being grown for seed. Common leaf spot was the worst disease on new seedlings this year. In some Minnesota fields, young alfalfa plants were stripped bare of leaves by attacks of common leaf spot.

On red clover, northern anthracnose is more common than last year. That disease destroys the stem at the base of the flower. Other diseases that have been common this summer on red clover include spring blackstem, Cercospora and Colletotrichum. All three cause leaf spotting and stem blackening, resulting in lower food value in the plants.

### Inorganic Chemical Output Dips in June

WASHINGTON—Production of synthetic anhydrous ammonia during June totaled 262,093 short tons, a drop of 16% from 310,422 short tons in May, according to the Bureau of the Census.

Output of ammonium nitrate, original solution (100%  $\text{NH}_4\text{NO}_3$ ) amounted to 158,318 short tons in June, down 12% from May production of 180,430. Phosphoric acid production totaled 299,338 short tons in June, off 7% from 322,354 in May.



K. T. Seaborne

### K. T. Seaborne New Sales Manager For Cominco Products

SPOKANE—K. T. Seaborne has been appointed sales manager of Cominco Products, Inc., according to an announcement by R. Hendricks, president of CPI. Mr. Seaborne has been western sales manager for the Consolidated Mining and Smelting Company of Canada Limited at its Vancouver office since 1953. He will be taking up residence in Spokane shortly.

Cominco Products, Inc. is currently building facilities for the distribution of solid and liquid fertilizers at Trentwood and has offices at 933 W. 3rd Ave. L. J. Nicholson, plant manager, has been located in Spokane since March of this year. Mr. Nicholson and Mr. Seaborne will be CPI's senior representatives in the Spokane area.

### TOP GRASSLAND FARMER

CLEMSON, S.C.—Dave Cameron, York, has been named the "Grassland Farmer for 1955" in South Carolina.



## MECHANIZATION CONFERENCE

(Continued from page 1)

way to meet the challenge of low-cost foreign labor, that is by taking "fullest possible advantage of our headstart in, and our great potential for, making technological progress in cotton production." He said that the advantage of technology, with all the cost-reducing potential it represents, is all on the side of the American grower.

"No other cotton-growing country even remotely approaches us in . . . our tremendous industrial capacity for producing machines and chemicals and other materials . . . our reservoir of engineering skill, our transportation and communication systems, our financing arrangements, and the like—not to mention the great advantage we have in our present system of agricultural research and education."

By exploiting this technological advantage, Mr. Blake declared, U.S. cotton can get its costs down, meet the challenge of cheap foreign labor and be competitive in price with foreign cotton and rayon. In the long run, he said, this is "our only real hope for re-establishing a strong position for U.S. cotton in overseas markets."

Cotton growers can look forward to substantial progress in the near future with the "problem child" of mechanization, according to E. Lee Langsford, agricultural economist with the U.S. Department of Agriculture. The problem child was identified as weed control by Mr. Langsford.

He indicated substantial progress can be expected in the near future in supplementing hand methods of weed control with mechanical and chemical techniques. He said these techniques would perhaps replace as much as 50% of the labor now associated with weed control, and that they were potentially applicable to probably 85% of the crop.

Developments thus far have produced mechanical and chemical methods which—under most conditions—require less labor and are less expensive than the hand and hoe, the speaker stated.

"But there still remains the need for retaining hand labor to cope with weed control," he said. "Until this need can be eliminated, it will continue to retard the progress of mechanization in other phases of the cotton enterprise."

"In order to reap fully the benefits which mechanization offers cotton, we must be aware that all segments of production are interrelated," Dr. William L. Giles, superintendent of the Delta Branch Experiment Station, told the conference.

He cited the following practices, showing how they are related to over-all production efficiency:

Land leveling—Row arrangement and land leveling provide for removal of excess water and a surface for mechanization. Low places delay and preparation, hold up planting, increase weed problems and keep mechanical harvesters idle when they should be running full force.

Deep tillage—Where hardpan exists, deep tillage has resulted in yield increases of more than 1,600 lb. of seed cotton per acre. Breaking this compacted layer of soil allows moisture penetration while at the same time making the surface workable much sooner after heavy rains.

Bedding—Beds of uniform height, shape and spacing increase efficiency of weed control. Uneven row middles actually may increase trash content of mechanically harvested cotton.

Weed control—Land leveling, bed uniformity, fertilizer placement and plant population all have a bearing

on weed control. Seed treatment and planting dates also might be listed as weed-control factors since shade from uniform stands is one of the most effective means of suppressing weeds.

He said that the weed control problem has delayed adoption of the mechanical picker on many farms where hand harvesting retains labor that may be needed for weed control in the spring.

Tests at the Delta station showed that chemicals and additional seed required for cross plowing made this type weed control more expensive than hand hoeing. On the other hand, full mechanization, including mechanical harvesting, reduced production costs by \$38 per acre and increased returns by more than \$25 per acre.

"Hand methods of weed control required an average of 18 hours of hoe labor per acre. A combination of chemicals and cross plowing required only 3.4 hours. Weed control can be accomplished by a small resident labor force where the labor-saving method is used. Here is an excellent example of the interrelationship of two seemingly disassociated practices (weed control and harvesting)."

Irrigation—"Perhaps more than any other practice, profit from irrigation is dependent on wise and careful integration of other components of production. Experiments have shown that irrigation may be unprofitable or may actually result in decreased yields where insect control is poor, low rates of fertilizer are used, or where unbroken hardpan exists near the soil surface."

Research on cotton production mechanization should be concentrated on obtaining better stands, equipment for control of weeds and diseases, defoliation, irrigation, soil characteristics and environmental factors.

This was the view of Dr. A. W. Snell, head of the agricultural engineering department, Clemson College, in a panel discussion, "Pinpointing Cotton Mechanization Research Needs."

Commenting that obtaining a stand is essential to efficiency in all other operations, Dr. Snell said that techniques must be developed to guarantee a stand in a completely mechanized operation.

In commenting on other research needs he noted:

Weed control—Application of pre-emergence chemicals with sweep cultivation has reduced much of the hand hoeing formerly required, but until a chemical is developed that will kill every plant but cotton there

is a need for better weed control equipment.

Insecticide application equipment—For early and mid-season insect control research should center around improving present application equipment and developing better and simple techniques. New equipment is needed for late-season control.

The problem of more foliage and larger stalk probably will become more prevalent with increased fertilizers, irrigation and higher yielding cotton. High clearance sprayers and other application equipment for this rank cotton need study. Late-season boll weevil control, allowing an extension of the fruiting season, could result in substantial yield increases.

A practice called "mulch tillage" shows promise of proving valuable to cotton production on sloping land such as that found in Georgia and the southeastern states, John R. Carreker of Watkinsville, another member of the panel on research, said.

Mr. Carreker, superintendent of the Southern Piedmont Conservation Experiment Station in Watkinsville, speaking on research results in land preparation, planting and fertilization, said cotton which is grown on sloping land is subject to severe erosion damage.

He cited tests showing that there is as much erosion during the three summer months as during the other nine months of the year. Therefore, conservation practices must be applied while cotton occupies the land in order to be effective.

Mr. Carreker produced other data to show that erosion is expensive, pointing out that the grower loses 100 lb. of seed cotton per year for each inch of topsoil lost.

During recent years, investigators at several locations have turned to a practice called "mulch farming," "mulch tillage," "stubble mulching," and similar names. The practice reduced runoff and erosion. Several problems also were encountered, Mr. Carreker said, which must be solved through research.

Included are tillage methods and tools that will retain plant material on the soil for surface protection and planters and planting methods that will properly place seed and fertilizer for mulch tillage.

The speaker said that mulch tillage offers the promise of retaining the benefits of sod crops through the period when row crops—such as cotton—occupy the land.

Results from the practice should be better soil structure, improved infiltration, reduced weed problem and tillage cost, better fertilizer utilization, and increased yields, he said.

Average cash farm income in the Southeast will increase from its present level of \$2,900 to \$7,500 within 15 years. This prophecy was made by George H. King, di-

## JAPANESE BEETLE FOUND IN CALIFORNIA

SAN FRANCISCO—An adult male Japanese beetle was discovered last month near Fairfield in Solano county in a trap placed on a lawn, and immediately alerted the California State Department of Agriculture. The beetle, believed to be a transcontinental or transoceanic hitchhiker by plane, was found near Travis Air Force Base, and is rare in California where no other infestations have been found. The department provided chemical spray materials which were applied to an eight-acre area surrounding the spot. The beetle known officially as *popillia japonica* Newman, causes serious damage to fruit in eastern states.

rector of the University of Georgia College of Agriculture experiment stations, who said agriculture has changed more than any other segment of our national life in the past 50 years and its most significant changes have taken place in the last 15 years. Even more startling progress is expected.

Dr. King pointed out that while the population of the U.S. has increased 23% from 1930 to 1950 that of the Southeast increased by 33%. Movement of industry to this section has had a great impact on its economy; in the last 18 years the number of manufacturing plants in the Southeast has doubled.

Agriculture is keeping pace with these changes in the South. Each year fewer farmers on larger farms are dividing the farm income. Fortunately, the movement of manufacturing plants is taking care of increased population and is absorbing many persons from small farms who could not make an adequate income on their operations. From 1935 to 1950 the number of farms in the Southeast has decreased by over 300,000—but at the same time, cash farm income has jumped from \$552 to \$2,900 per farm.

This development is attributed by Dr. King to two factors: change in the emphasis given various farm enterprises, and greater efficiency per unit of production.

Land selection, mechanization, fertilization, new varieties, weed and insect control and other practices, have contributed to increased efficiency. He also credited government programs such as soil conservation, incentive payments, and allocation of acreage, as having made the southeastern farmer strive for more productivity per acre, and lower costs.

In summing up what this has meant to the South, the speaker chose the years 1935 and 1955 for comparison. In that period, the average yield of cotton increased from 240 lb. per acre to 466 lb. per acre, tobacco increased from 920 to 1,500 lb. per acre, and peanuts from 772 to 1,075 lb.

Decreased production costs due to mechanization have benefited the cotton farmer to the tune of \$20 a bale.

That was the figure given by H. F. Miller of USDA's Agricultural Research Service. He added that further refinement of mechanical harvesting methods gives hope of bringing costs down even further.

Mr. Miller at the same time pointed out that in lowering costs all the techniques used have not contributed to increasing the final value of the bale. It works this way: All the good effects of complete mechanization on a particular farm lower production costs by \$30 per bale. And under average conditions the adverse effects on cotton's quality result in the bale selling for \$10 less than hand-picked cotton. So the farmer's net gain is \$20 per bale, he said.

## POTASH DELIVERIES

(Continued from page 1)

and include those during the first five months of 1956.

Deliveries during the quarter for agricultural purposes in the U.S., Canada, Cuba, Hawaii, and Puerto Rico (Institute countries) amounted to 865,942 tons of salts equivalent to 511,491 tons of K<sub>2</sub>O, consisting of

480,919 tons as muriate, 370 tons as manure salts, and 30,202 tons as sulphate of potash and sulphate of potash-magnesia. Deliveries for chemical purposes amounted to 53,948 tons of salts, equivalent to 33,566 tons of K<sub>2</sub>O. Exports to other than Institute countries totaled 34,905 tons K<sub>2</sub>O.

## NORTH AMERICAN POTASH DELIVERIES

	Short Tons K <sub>2</sub> O			
	January-June, 1956	January-June, 1955	April-June, 1956	April-June, 1955
Muriate	1,042,457	1,065,726*	480,919	474,716*
(Imports)	(73,319)	(60,240)*	(73,319)	(60,240)*
Manure Salts	877	787	370	268
Sulphate and Sul. Pot. Mag.	67,800	71,403*	30,202	36,301*
(Imports)	(8,812)	(18,030)*	(8,812)	(18,030)*
Total agricultural	1,111,134	1,137,916*	511,491	511,285*
Exports	57,523	21,529	34,905	2,174
Chemical Grades	67,885	57,296	33,566	29,106
GRAND TOTAL	1,236,542	1,216,741*	579,962	542,567*
(Imports)	(82,131)	(78,270)*	(82,131)	(78,270)*

\*Revised.  
NOTE: Imports for the first five months are included in the totals for the second quarter of 1956. Import figures in parentheses are included in the total figures immediately above them.



# Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Western states.

## It's Time to Unmask TVA Fertilizer Activities

The fertilizer industry right now is strongly of the opinion that the Tennessee Valley Authority should be "unmasked" and its true activities of flooding the markets with tax-free, government-manufactured fertilizers, exposed. In the face of more-than-adequate private industry facilities for the production of ammonium nitrate and other plant foods, TVA is still producing nearly 200,000 tons of fertilizer a year and distributing it in a 35-state area at prices below the level at which private firms, considering their large capital investments and high tax situations, can afford to sell such products.

TVA's noble-sounding objectives, that of making plant food only for "educational" and "demonstration" uses sound ridiculous and downright false when measured up to the facts of the matter. Whereas TVA claims its fertilizer facilities exist only for the sake of introducing more farmers to the idea of using more and better plant foods, in itself a laudable enterprise, the facts are, according to a recent speech by Dr. Harry A. Curtis, TVA director, that "Test demonstration farmers use only a thirtieth of TVA's total fertilizer output." Where is the remaining approximately 97% going?

Legitimate private manufacturers who contribute large sums in taxes to keep TVA going, are well aware of where this extra government-made tonnage is being distributed. It is the merchandise that is being unloaded throughout a 35-state area at prices from \$5.00 to \$6.50 a ton less than the legitimate trade is in position to meet. This, according to TVA's point of view, is making "high analysis fertilizers available to commercial dealers for educational uses."

One industry spokesman, voicing the alarm being felt throughout the trade at the prospect of continuing encroachments by TVA, reminds the fertilizer industry, which shares his views, that merely "getting mad" over the situation is not enough. The only really positive way to change the situation, he declares, is to bring the facts before Congress, so that tax monies for the project might be eliminated or at least curtailed. Here are some of the reasons he believes that the fertilizer industry is justified in bringing before Congress a proposal for action.

In the first place, he says, "There is no need for the ammonium nitrate tonnage produced by TVA. Capacity for producing this product and solid urea has been increased during the past five years to the point that substantial capacity stands idle because of lack of markets.

"Under the competitive situation prevailing for the past year and a half, TVA's declared policy of selling their product only for agricultural uses not directly competitive with commercially-produced materials has been unmasked. All along, from a practical point of view, this declared policy has been little short of a farce and ridiculous sham. Surely even the TVA people themselves will admit privately their declared policy is not being adhered to with any semblance of uniformity.

"TVA is no longer making any contribution to the advancement of ammonium nitrate use or technology. Their tonnage is not needed to meet a nitrogen shortage; a very large percentage of what they sell enters directly into competition for well-established nitrogen uses; and their product offers no special advantage in quality.

"The TVA product in some instances, is being used by the distributors of same as a 'cut price' loss leader to sell the mixed fertilizer produced by such distributors.

"It is unfair and unjust; a violation of basic

principles, for tax monies to be used to support and underwrite such a program."

Among other ideas being kicked around in the trade is the possibility that the government might permit the sale of TVA's nitrogen and phosphate facilities at Sheffield, Ala. There is a precedent for such an action, since the present administration has followed a rather well-designed program of getting the government out of business by selling production facilities to private industry. One example of this, was the sale of government synthetic rubber plants.

Naturally, it is unlikely that many companies in the fertilizer industry will be vying with each other to buy more production facilities at this time, but the thought does have merit.

Regardless of that, TVA stands as a continual threat to not only the fertilizer industry's welfare, but to all private enterprise. If the "demonstration" program for fertilizer appears to be successful, what's to stand in the way of a "demonstration" or "educational" setup for insecticides, weed killers, fungicides, defoliant and all of the other agricultural chemicals? Would they not be a logical next step in the thinking of TVA-minded people? The same type of demoralizing effect could be brought about in the pesticide area just as well as it is currently being done in the fertilizer industry.

We agree that the time is here now when more persons in the fertilizer trade, along with those in other industries already successful in getting the government out of their businesses, should make their voices heard against government competition against legitimate private industry.

The 84th Congress was sensitive to this problem when many individual voices were raised in widespread protest. It is reasonable to believe that if enough fertilizer industry people present the facts to the next Congress, that Congress might correct this abuse of private enterprise.

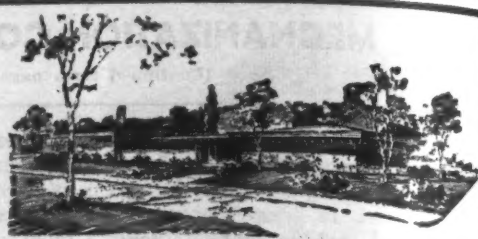
## Chemical Industry Shown as Safe Place for Employment

"One of the fine aspects of the chemical industry is the interest its management shows in people. This is clearly demonstrated in the remarkable record in measures taken to protect our personnel from accidents. Over the past ten years the record has continued to improve to the point where the accident frequency rate of the member companies of this Association is approximately one-fourth that of all manufacturing organizations as a group.

"According to the statistics, a man is safer while working in a chemical plant than he is when off duty or not working. Three hundred and thirty-one Certificates of Achievement have been awarded to plants of member companies which operated without a lost-time accident during calendar year 1955."—Gen. John E. Hull, president, Manufacturing Chemists' Assn., Inc., in address before the group's recent 84th annual meeting, White Sulphur Springs, W.Va.

## Future of Cotton

"Our shrinking farm labor force, together with the long-term trend in wages, speaks worlds on the subject of cotton's future. It says emphatically that we must mechanize—we must employ every useful result of science and technology in improving labor productivity and reducing costs. It says we must make the fullest possible use of research and promotion to build an expanding market. It says the dynamic approach is the only approach to a real future for cotton."—Wm. Rhea Blake, executive vice president, National Cotton Council, at the tenth annual Beltwide Cotton Mechanization Conference.



## Croplife



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG

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EXECUTIVE AND EDITORIAL OFFICES—2501 Wayzata Blvd., Minneapolis, Minn. Tel. Federal 2-0575. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D.C. (WA 82).

Published by

THE MILLER PUBLISHING CO.

2501 Wayzata Blvd., Minneapolis, Minn.

(Address Mail to P. O. Box 67, Minneapolis 1, Minn.)

Associated Publications—THE NORTHWESTERN MILLER, THE AMERICAN BAKER, FEEDSTUFFS, MILLING PRODUCTION



# MEETING MEMOS

Aug. 27-30—Course on Tank Truck Transportation of Chemicals, Michigan State University, East Lansing, Mich.

Aug. 28-29—Great Plains Agricultural Ammonia Conference, Cornhusker Hotel, Lincoln, Neb.

Aug. 30—South Carolina Plant Food Educational Society, Clemson House, Clemson, S.C.

Sept. 5-7—National Agricultural Chemicals Assn., 23rd Annual Meeting, Essex and Sussex, Spring Lake, N.J., L. S. Hitchner, 1145 19th St. N.W., Washington, D.C., Executive Secretary.

Sept. 12—New England Fertilizer Conference, Bald Peak Colony Club, Melvin Village, N.H.

Sept. 18-19—Symposium on Chemicals in Food Production, Presented by Division of Chemical Marketing and Economics, American Chemical Society, Atlantic City, N.J.

Sept. 27—New Jersey Fertilizer Conference, Rutgers University College of Agriculture.

Oct. 8-10—Carolinas-Virginia Pesticide Formulators Assn., Inc., Annual Meeting, Holly Inn, Pinehurst, N.C., W. R. Peele, 516 S. Salisbury St., Raleigh, Secretary-Treasurer.

Oct. 9—Western Agricultural Chemicals Assn., Fall Meeting, Villa Hotel, San Mateo, Cal., O. O. Barnard, 2466 Kenwood Ave., San Jose, 28, Cal., Executive Secretary.

Oct. 15—Fifth Annual Chemical Sales Clinic, the Salesmen's Association of the American Chemical Industry; Hotel Commodore, New York City; chairman, Preston F. Tinsley, Westvaco Chlor-Alkali Division, Food Machinery and Chemical Corp., 161 East 42nd St., New York 17, N.Y.

Oct. 16-17—National Nitrogen Solutions Assn., Annual Meeting and Trade Show, City Auditorium, Sioux City, Iowa; John White, Auburn, Neb., secretary.

Oct. 18-18—Fertilizer Industry Round Table, Shoreham Hotel, Washington, D.C. Vincent Sauchelli, Chief Agronomist, Davison Chemical Co., Div. W. R. Grace Co., Baltimore 3, Md., chairman.

Oct. 16-18—Canadian Agricultural Chemicals Assn., Fourth Annual Meeting and Conference, Sheraton-Brock Hotel, Niagara Falls, Ontario.

Oct. 18-19—Association of American Fertilizer Control Officials, Shoreham Hotel, Washington, D.C., B. D. Clineinger, Clemson Agricultural College, Clemson, S.C., secretary-treasurer.

Oct. 22-23—Fertilizer Section, National Safety Council, La Salle Hotel, Chicago, Ill.; Curtis A. Cox, Virginia-Carolina Chemical Corp., Richmond, Va., chairman.

Oct. 23-24—Pacific Northwest Garden Supply Trade Show, Shrine Auditorium, Portland, Ore.

Oct. 25—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. La Salle St., Chicago 1, Ill.

Nov. 2—Southern Soil Fertility Conference, Atlanta-Biltmore Hotel, Atlanta, Ga.

Nov. 7-9—Agricultural Ammonia Institute, Annual Convention, Atlanta Biltmore Hotel, Atlanta, Ga., Jack F. Oriswell, Claridge Hotel, Memphis, executive vice president.

Nov. 7-9—Pacific Northwest Plant Food Assn., Annual Convention, Harrison Hot Springs Hotel, Harrison Hot Springs, British Columbia, Leon S. Jackson, Lewis Bldg., Portland, Ore., secretary.

Nov. 11-13—California Fertilizer Assn., 33rd annual convention, Del Coronado Hotel, Coronado, Cal.; Sidney H. Bierly, executive secretary, 475 Huntington Drive, San Marino 9, Cal.

Nov. 19-20—Eastern Branch, Entomological Society of America, Hotel Haddon Hall, Atlantic City, N.J., B. F. Driggers, Rutgers University, New Brunswick, N.J., secretary.

Nov. 28—Oklahoma Fertilizer Dealers Conference, Sponsored by the Oklahoma Plant Food Educational Society, Oklahoma A&M College, Stillwater.

Nov. 29—Oklahoma Soils and Crops Conference, Oklahoma A&M College, Stillwater.

Dec. 6-7—Alabama Soil Fertility Society, Whitley Hotel, Montgomery, Ala.

Dec. 27-31—Entomological Society of America, Annual Meeting, Hotel New Yorker, New York City.

July 17-19—Southwest Fertilizer Conference, Galvez Hotel, Galveston, Texas.

1957

Jan. 23-25—Southern Weed Conference, Bon Aire Hotel, Augusta, Ga.; Walter K. Porter, Jr., Agricultural Experiment Station, Louisiana State University, Baton Rouge, secretary.

Jan. 28-29—National Cotton Council of America, Annual Meeting, St. Louis, Mo.

Jan. 31-Feb. 1-2—Agricultural Aircraft Assn., Annual Convention, Senator Hotel, Sacramento, Cal., Wanda Branstetter, Route 3, Box 1077, Sacramento, Executive Secretary.

June 26-28—Eighth Annual Fertilizer Conference of the Pacific Northwest, Benson Hotel, Portland, Ore. B. R. Bertramson, Washington State College, Pullman, Wash., chairman.

## Oregon Harvests Average Strawberry Crop

PORTLAND, ORE.—Post-harvest estimate of Oregon's 1956 strawberry crop is placed at 73,260,000 lb. with stems. This compared with 88,452,000 lb. harvested in 1955 and the (1945-54) average of 51,192,000 lb. The estimated 18,500 acres picked this season is record large for the state and compared with 18,200 acres picked in 1955 and the average of 15,850 acres.

Effects of the cold fall and winter weather on strawberries were in part offset by the absence of extensive and damaging spring frosts. As a result the estimated 3,960 lb. yield per acre while not up to the record 4,860 lb. yield picked in 1955 compares favorably with the average 3,204 yield.

## COUNTY AGENT HONORED

CLEMSON, S.C.—A South Carolina county agent was the first to be given a salute on a new feature to be started by the radio and television service of the U.S. Department of Agriculture's Office of Information on the weekly American Farmer radio program. He is county agent C. J. Livingston of Charleston County. Mr. Livingston was selected for this honor because of his work in helping to organize the resources of his county for stamping out an outbreak of sleeping sickness in horses and mules last summer. The salute was given on the Aug. 11 broadcast of the American Farmer program, originating in Washington, D.C.



Peter H. Walmsley

BRANCH MANAGER — Peter H. Walmsley has been appointed manager of the New Orleans branch of Fulton Bag & Cotton Mills. A native of New Orleans, upon graduation from Princeton in 1949, he joined Fulton's New Orleans organization. Most recently he has been serving as assistant branch manager and aide to Jason M. Elsas, who was New Orleans branch manager as well as vice president and general manager of Fulton's national bag division. Mr. Elsas will now devote full time to the duties of vice president and general manager of Fulton's national bag division operations.

## Scholarship Program is Announced by Firm

NEW YORK—National Distillers Products Corp. and subsidiaries, including its U.S. Industrial Chemicals Co. division, has inaugurated a comprehensive program of financial aid to education, according to an announcement made by John E. Bierwirth, president.

The program will encompass direct assistance to institutions ranging from preparatory to graduate schools through a plan to match employee contributions for educational purposes, 10 four-year national merit scholarships on the college level, a donation equivalent to two scholar-

## Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of \$9 per column inch.

All Want Ads cash with order.

## MISCELLANEOUS

OFFERED BELOW SCHEDULE—LINTOX 25 W, pyrethrum powder, red squill fortified, calomel. Chemical Service Corp., 88-12 Heaver St., New York 5, N. Y.

IMMEDIATELY AVAILABLE 10 TONS OF sodium naphthyl phthalate pre-emergence weed seed control mixture packed in 50-lb. drums. Priced for quick sale in whole or part. Address Ad No. 1962, Croplife, 551 Fifth Ave., New York, N.Y.

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ships to the national fund for medical education which aids 82 universities, and a limited number of graduate fellowships.

## JOINS MICHIGAN CHEMICAL

ST. LOUIS, MICH.—Edward M. Laczynski has joined Michigan Chemical Corp.'s research staff, according to the announcement of Dr. Dwight Williams, director of research. Mr. Laczynski is a metallurgical engineer and a member of the American Institute of Mining and Metallurgical Engineers. He is assigned to work on rare earths metals at the company's rare earths laboratories located in St. Louis, Mich.

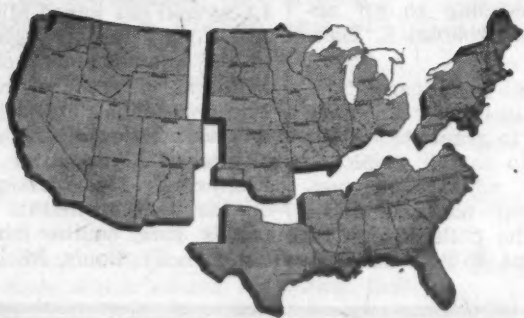
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